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INFORMATION TECHNOLOGY DIVISION

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The *Information Technology Bulletin* is a quarterly newsletter of ITD's Strategic Planning Bureau. One of SPB's tasks is to act as a clearinghouse for IT information. This publication furthers that goal. Please send correspondence to Managing Editor, Elaine Socha, the Information Technology Bulletin, Room 801, One Ashburton Place, Boston, MA 02108.

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A MESSAGE FROM THE CIO

We are embarking on a second major round of state government technology investment, energized by IT Bond II, but fueled also by substantial information technology investments made through departmental operating budgets. The Administration, Legislature, and forward-thinking Departmental managers have endorsed the expanded use of technology in state government operations and education, in order to better serve the needs of taxpayers, constituents, and the Massachusetts business and civic community.

Now comes the hard part. Creating "integrated systems" is easier to say than to do. But adhering to some fundamental technical standards will help immensely in preventing fundamental incompatibilities between systems.

In particular, I would like to highlight the important new requirements that:

- new systems and networks should communicate using TCP/IP as a standard protocol;
- e-mail systems should be able to work with a central statewide X.500 e-mail directory (under construction);
- new desktop PCs used for administrative purposes (HR, budgeting, accounting, procurement) should use 32-bit versions of Microsoft Windows (either Windows 95 or Windows NT Workstation) that include a Web-browser (either Netscape Navigator or Microsoft Internet Explorer).

As a note of interest, I would also like to highlight the exploratory work that Information Technology Division is undertaking with several large departments to achieve networked data transfers between departments using IBM's MQSeries messaging software, as part of its Communications Bridge project.

The more we can count on some fundamental "rules of the road", the more confidently we can drive towards improved service levels.

Sincerely,
T. Louis Gutierrez

INFORMATION TECHNOLOGY

BULLETIN

Vol. 3 No. 1

Executive Office For Administration & Finance
Information Technology Division

Winter 1997

Public Safety Secretary Advances Technology Improvements

Secretary of Public Safety Kathleen M. O'Toole has oversight of over 10,000 employees in twenty agencies, boards and commissions that have a combined budget of over one billion dollars. When Secretary O'Toole was appointed in 1994, she knew that her vast experience in law enforcement would serve her well. What she did not anticipate was her role in advocating the benefits of information technology.



"When I first arrived at the Executive Office of Public Safety (EOPS), I recognized that we had to enhance the way we do business," said Secretary O'Toole. Working with her newly appointed Secretariat Information Officer (SIO) Craig D. Burlingame, Secretary O'Toole developed a partnership with the Information Technology Division to implement a three phase information technology program.

In developing a plan, all parties understood that each step was a building block to the future. "The first order of business was to get the Executive Office's house in order," said Secretary O'Toole. "For example, I had an old 286 sitting on my desk collecting dust." After upgrading the office's technological capabilities (including such basic functions as e-mail) the secretary and her team directed their attention to the EOPS agencies.

The goal in the second phase was to develop integrated office technology within the secretariat's agencies. "We had separate agencies with outdated equipment who were all doing their own thing," said Secretary O'Toole. She stated that if EOPS was going to be successful, "we were not going to have 20 different agencies with their own individual technology goals." The Secretary feels that establishing a defined goal and developing a workable plan for IT changes has already paid off. SIO Burlingame pointed out that eighty percent of the EOPS agencies have already upgraded their technology and are now connected to their own LAN/WAN. Through this interconnection, agencies now have the ability to communicate with each other, a practice that was not always evident in the public safety community in the past.

The third and most ambitious phase in the Secretary's plan is to design and implement a fully integrated public safety voice and data system. While acknowledging that this is an ever evolving plan, Secretary O'Toole proudly points to a number of early accomplishments.

See **PUBLIC SAFETY SECRETARY**
Continued on page 5.

The Year 2000

There are only about 1,000 days left before the year 2000. Only about half of those 1,000 days can actually be used to solve the century problem because: lots of time will be required for testing and all the work has to be completed before Fiscal 2000 begins in mid-1999.

This issue of the IT Bulletin is almost entirely devoted to the Year 2000: what the problem is, how to attack it, who's currently doing what about it already, as well as resources available to assist those who haven't yet begun or have only just begun. In future issues, the IT Bulletin will continue to update the Year 2000 calendar of events and to present other relevant resource information.

YEAR 2000

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DOR's Innovative Filing Systems

On January 14, 1997, Revenue Commissioner Mitchell Adams flipped the switch on the Telefile machine, officially activating DOR's computerized tax filing systems and signaling the start of the 1997 tax season. Hundreds of thousands of Massachusetts taxpayers are expected to Telefile their 1996 state income taxes this year. Last year Massachusetts was the first state to offer PC filing for Telefilers only. This year Massachusetts is one of only two states in the nation that will allow taxpayers to download filing software from the World Wide Web for both Telefile and Form 1, and transmit their returns to DOR electronically.

"We are truly turning the traditional tax processing world on its ear. DOR has long been a trail-blazer for new technology, and now we're able to give taxpayers something back for all the hard work that's been put into developing these cutting-edge systems. Most taxpayers who are owed a refund literally will never have to send another piece of paper to DOR in the future," said Adams.

Telefile is a touch-tone tax filing system that has revolutionized front-end tax processing. After the taxpayer completes a brief worksheet, they place a telephone call to the Telefile system. The call takes about eight minutes and during that time Telefile actually computes the tax return, making calculations on-line and telling the taxpayer how much they are owed in a refund or whether they owe a payment. "Taxes can't get much easier than this. An eight minute phone call and your check is in the mail in four days. We also love Telefile because it saves money in processing costs and it saves trees," said Adams who also said that Telefile

saves in storage costs. "I can hold in the palm of my hand a tape cassette that contains half a million tax returns. Those same returns filed on paper take up 2,000 feet of shelf space. The less space we need to store tax returns, the more money we save," he said.

This is the third year of Telefile for state income taxes; the IRS is in its second year of the program. Last year approximately 400,000 Massachusetts residents who would have otherwise used a paper return used Telefile. "Taxpayers are learning that Telefile is the way to go if you want a refund in four days flat. It's also convenient. We're operating 24 hours a day, seven days a week," said Adams. Also new this year are **credit card payments** for Telefilers who owe less than \$1,000, and **direct deposit of refunds** for those who file electronically through a tax preparer.

Adams also demonstrated the **PC file program for Telefilers**. The program is accessed through DOR's home page on the World Wide Web: <http://www.state.ma.us/dor/>. Taxpayers download software and fill in the return, similar to filling out a paper return, then transmit the return directly to DOR. For those with longer, more complicated returns, DOR is also offering, new this year, **PC filing for Form 1 filers**. All of the PC filing programs and information on DOR can be found on the home page.

For those who will file by paper returns, **DOR's imaging system** will be running at full-speed for the second year. Last year approximately 1.5 million returns were imaged. This year more than 2 million will be imaged. Imaging tech-

nology creates a more efficient system and it saves money. The costs of processing each paper return via the hand-keyed method is \$1.28, where the cost of processing an imaged return is \$.95, a 26 percent decrease. Imaging technology uses high speed scanners that scan and then send images of tax returns to a computer that reads both handwritten and machine-generated returns. Imaging is faster and more accurate than conventional hand-keying methods. Imaged returns capture 50 percent more data than hand keyed returns. Plus, the imaging system creates an electronic file folder for each taxpayer that can be retrieved instantly, compared with a two week retrieval wait for locating a paper return. DOR's imaging system is widely regarded as the most sophisticated of its kind in the public and private sectors.

Another new service for taxpayers is a **telephone information system called "Tax Talk"**. Taxpayers call DOR's main customer service number, 617-887-MDOR (887-6367) where they will find pre-recorded information on 40 tax topics.

Telefiling, PC filing, imaging/data recognition, interactive voice and other new technologies have permitted DOR to downsize from 2,000 employees to 1,500 while productivity has virtually doubled - from \$4.5 million in revenue per employee in FY91 to \$8 million in FY96. "Our pledge is to keep our leadership role in these technologies, because it will mean lower costs, and even better performance and service for Massachusetts taxpayers," Adams said. ♦

The Year 2000

C H A L L E N G E

We've all read the stories about the 104 year old woman who received a letter inviting her to join next year's kindergarten class — when her birth year of "92" was assumed to be 1992, not 1892. We live in an information-based society where most of the information is stored and processed in computers. Most computer systems store and report years as two digits, that is, without explicitly stating the century. During the time since the birth of computers, the century was always 19 and so did not need to be explicitly stated. But in recent years, systems doing future-oriented date calculations have already begun to experience the Year 2000 problem (similar to identifying 104 year old kindergartners). And in a short time the current year will be "00" which is going to create problems unless this century problem is addressed.

In most computer systems, the computer manipulates dates, sometimes in arithmetic calculations, sometimes for sorting, sometimes in comparisons that determine process flow. In the past, these manipulations produced accurate and desired results without explicit centuries because, in most instances, all those dates were in the same century. But when the two-digit year becomes "00", calculations will produce abnormal results: this will vary by system but some of the possibilities include negative numbers that cause the program to terminate before completion, negative numbers that just don't make any sense and are wrong to boot, negative numbers interpreted as positive numbers that look o.k. but are still wrong. Sorts will produce erroneous results, sorting later years ("00") before earlier years ("50" or "90" for example).

This is the crux of the problem, but not all of it. In some systems, 9/9/99 (or something similar) was used to indicate some indeterminate future date or a non-existent termination or expiration date. Well, September 9, 1999 will be upon us soon as a real date, pulling "9/9/99" into routine processing

with erroneous results. A further wrinkle is that the year 2000 is a leap year but will not be recognized as such by many systems, yielding the wrong day-of-the-week for all days after February 28, 2000.

Another aspect of the anticipated problem is that some systems will be ready and others will not so the interfaces between them will be problematic. In these days of electronic commerce (electronic data interchange, electronic funds transfer, and electronic benefits transfer), many systems interface with many other systems, exterior to the organization as well as interior. Systems will have to be prepared to both accept and provide data from and to systems that are Year 2000-compliant and those that are not.

The Year 2000 problem is not unique to Massachusetts state government - it applies to all organizations around the world that are using computers. The problem is not just about mainframes - it applies to midrange systems and PCs, and also to PBXs, faxes, VCRs, automated alarms, doors, elevators and bank vaults - to name some obvious examples. The problem is not just about COBOL- it applies to any and all programming languages and operating systems, and to execs and macros and job control language, to custom spreadsheet and personal data base applications, and to ad hoc queries and report requests.

Many PCs cannot handle the transition to the year 2000. The PC may reset the system date to the BIOS date when January 1, 2000 rolls in. This can be tested by setting the system date on a PC to December 31, 1999 at 11:55 p.m., then shutting off the PC and waiting 10 minutes. When the PC is powered up, the date may have reverted to the original BIOS date rather than showing January 1, 2000.

YEAR 2000

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SOME APPROACHES TO YEAR 2000 SUCCESS

Now this Year 2000 problem is not difficult to fix, in fact technically it is fairly simple. However, the modifications are labor-intensive and may require additional resources, both human and machine. And a strategy will be needed for handling aspects of the problem beyond a system's data and processes, such as business priorities and system interfaces.

Generally speaking, there are two basic ways to attack the technical problem: data and process.

In the data approach, all date fields are identified and analyzed and the relevant century is added to the data files or data bases. Expansion of a two digit year to four digits most likely will require a data file conversion and an increase in disk utilization, especially if the system contains large quantities of dates. This may cause an increase in processing times and also chargeback costs. If adding century to all date incidents in a system requires large quantities of additional storage space, running old and new versions during parallel testing will greatly compound the problem of space utilization.

If the data approach is pursued, the programmatic handling of input and output will need to accommodate the difference between the stored data and the displayed data. Or the screens and reports will have to be analyzed to determine if they have the space to accommodate century in all those dates. If forms and reports are going to be changed, the users will need to be retrained. If forms are going to be changed, a decision will be required regarding whether the users will be forced to key in the century every time even when, in context, the relevant century is obvious. Wait a minute! This section was supposed to

be about the data solution — what's all this about process?

In the process approach to a solution, one could ignore the data and develop a strategy for processing dates with intelligent assumptions (a birth date is probably in the past; an expiration date is probably in the future; etc.) But then, in order to change the programs, the source code is needed — assuming it is still around. And every changed program needs to be exhaustively tested. Some of these programs most likely have not been touched for years and some thoroughly dependable code may become buggy.

And after all that, the process-oriented solution is still probably an interim solution, only postponing fixing the data. Yet, taking this approach may be a good strategy for getting past the Year 2000 "deadline" successfully. The deadline will vary for systems depending on their usage of dates and implications such as fiscal years. For a lot of applications, January 1, 1999 will be the deadline. For some applications, their owners have already determined that they will not be confronted by the century problem until several or many years after the year 2000.

Regardless of how the Year 2000 problem is approached, testing will comprise a major series of activities absorbing large quantities of human and machine resources. Yet rigorous testing must be performed: some programs will terminate before completion when encountering the year "00", but others will appear to perform normally due to date comparisons and calculations not causing a programmatic error, while still producing erroneous results.

YEAR 2000 ACTION PLAN

If information technology managers have not done so already, now is the time to develop an implementation plan to solve the Year 2000 dilemma for their organization. In identifying the scope of the problem, it may be that some systems, while they need to be converted, will not yield troublesome results if ignored for awhile. Alternately, some very old systems might as well be replaced. But before these decisions can be made, the project magnitude, costs and priorities need to be determined. There are business as well as technical considerations that will come into play in order to balance cost and risks.

Each organization will need to develop its own definition of Year 2000-compliance. In general, it will mean that data outside of the range 1900 to 1999 will be correctly processed in any level of computer hardware and software (files, data bases, programs, firmware, microcode). Achieving Year 2000-compliance, for many organizations, will include managing vendors to insure that their products and any interfaces to those products, support a four digit year format. Some vendors will also offer tools to assist in the conversions.

YEAR 2000 ACTION PLAN

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Further delay in addressing the Year 2000 problem will turn out to have been foolhardy. Some information technology gurus have been actively involved in this issue for years and they assure us that there will be no magical reprieve. The longer you wait, the worse the problem will become. These gurus expect failures to occur; in some instances the expectations are of massive failures. Some gurus expect legacy programmers to command astronomical salaries, bid up by organizations competing for their services as the deadline gets nearer and nearer.

It will be crucial to have some one in charge of an organization's preparation for the year 2000 and that someone will need to have finely honed managerial skills. A schedule of events will be imperative for the Year 2000 count-down in order to measure progress and be aware of risks.

Many vendors offer consulting services for addressing the Year 2000 problem. Seminars and conferences have begun and will likely become more frequent. The World Wide Web contains some sites devoted to this topic. These offerings, like this issue of the IT Bulletin, are available to increase awareness and to provide assistance. So get started!

One such success story is the development of a single inquiry or "one check" system. In this system, police and other law enforcement officials such as the Office of the Commissioner of Probation, the Parole Board or the Department of Correction have immediate access to vital information that may have previously been stored away in an agency file cabinet. "We are now providing vital information on sex offenders, parolees, probationers, outstanding warrants or restraining orders with a single inquiry," said Secretary O'Toole.

SIO Burlingame said that this technology has been made available state wide to every criminal justice agency. He estimated that there are approximately 500 officers across the Commonwealth who are currently using laptops that give them the "one check" capability. Secretary O'Toole envisions the day when everyone in the field will operate in a paperless office, allowing them to focus more time on their public safety duties. "This is industry standard -- if Federal Express can do it, why can't we," she said.

Secretary O'Toole pointed out a number of other technology improvements that have been implemented over the past two and a half years. Many of these applications are the first of their kind in the country.

- Electronic Warrants Management System
- Domestic Violence Registry
- Parole Status
- Custody Status
- Inter-State Probation Compact
- Firearms Licences
- Probation Status
- Sex Offender Registry

Public Safety Secretary

Continued from page 1.



Craig D. Burlingame

A significant accomplishment occurred in 1994 when the state legislature enacted the nation's toughest drunk driving (OUI) legislation. Local police were soon pointing out that the new law created so much paperwork that it took up to two hours to process each single violation. The Secretary directed SIO Burlingame and members of the Criminal History Systems Board (CHSB) staff to move quickly to develop new on-line processing that reduced this time down to ten minutes. Secretary O'Toole uses this example to point out the level of cooperation that has developed between agencies. "You have to understand the lack of communication that historically existed in law enforcement," she said. "I believe there is now an unprecedented level of cooperation. The interaction between agencies made possible by integrated information systems creates positives that clearly out-weigh any perceived negatives."

The Secretary and SIO envision the creation of broader partnerships to make the job of law enforcement easier. For example, both see more integration among agencies on a nation wide scale. As SIO Burlingame stated, "Criminals do not respect state borders." He pointed to the creation of a national sex offender registry as an example of nation wide information sharing.

Secretary O'Toole continues to see information technology as an essential component in public safety. "Technology is not the driver but when we identify a problem, we then examine how technology might provide a solution," she said. "We continually balance law enforcement needs and technological solutions. We have a clear vision but we always need to be flexible." ♦

Who's Doing What Regarding

Office of the State Auditor

The Office of the State Auditor, with the assistance of the Information Technology Division (ITD), is in the process of conducting a survey to determine the extent to which the Commonwealth has assessed the impact of Year 2000 compliance for mission-critical systems. The survey can be accessed via ITD's Web site (<http://www.eoaf.state.ma.us>) and responded to by e-mail. Alternately, the survey can be obtained by contacting Robert Buchanan, Information Systems Audit Division, Office of the State Auditor, by phone at 617-727-6200 x73 or by e-mail at Robert.Buchanan@SAO@state.ma.us. In addition to soliciting completed surveys, the Auditor's Office will be conducting site visits at selected agencies to review Year 2000 compliance issues with agency staff. The results of the survey will also be used to identify agencies in need of assistance with Year 2000 issues.

Department of Revenue

DOR has completed their inventory of the year 2000 impacts in their major systems and has developed a year 2000 management team for addressing their problems. Their immediate next steps include: staffing the project from department-wide resources; creating a dedicated testing environment; continuing their cross-divisional planning and strategy sessions; and working with their interagency and business partners in federal and state government to coordinate interfaces.

In January 1997, DOR hosted a Year 2000 Awareness Day at Gardner Auditorium in the State House. The approximately 200 participants represented DOR and its business partners, as well as other Massachusetts state government agencies including Constitutional Offices and the Legislature. DOR Commissioner Mitchell Adams opened the program which included speakers from DOR and ITD, as well as the Information Technology Association of America, BankBoston, Keane Inc., Digital Equipment Corporation, and Unisys Corporation.

Office of the State Comptroller

The Office of the State Comptroller is already planning for the Year 2000 impacts on its systems. Readiness concerns fall into two main categories: state-wide applications and OSC internal systems. For MMARS, date-related issues refer to the two position date field on screens and reports, basic input/output systems, and custom-built office applications. The MMARS system is currently under contract for a 12 to 16 month conversion of screens and reports. The analysis for PCRS and the Information Warehouse will begin soon. OSC internal Y2K system work is well underway.

The Executive Office of Environmental Affairs

EOEA's primary database development platform is Oracle running on a VAX. EOEA began its significant discussions and research for addressing the year 2000 in early 1996. Any application built in the last two years was required to make provisions for the year 2000. However, numerous applications built prior to that are still in use and require modification. EOEA's senior development staff, known as the Core Team, has communicated to the MIS Managers of each EOEA agency the need to consider this project a priority. A few applications have already been corrected due to immediate need. The remaining applications are being worked on as other enhancements are made or as an overall year 2000 conversion effort. The Core Team is also preparing a document to assist developers in the agencies in identifying and correcting Oracle products that are impacted by the year 2000. This document was released to the developers in February. Agencies will also be advised to assess impacts to non-Oracle databases. The Core Team expects that the agency MIS managers will each assign a project leader to this project, if they haven't already, to ensure that progress is made and product status is tracked. The Core Team will monitor the overall secretariat progress on Oracle products using an automated change management tool. Updates and status reports will be provided to the Secretariat's Systems Integration Team on a bimonthly basis.

The Year 2000

Registry of Motor Vehicles

Dates are probably the most common data element that RMV tracks. As a result, RMV approached the storing of dates as a space and performance issue right from the start. The RMV stores dates as a positive or negative number representing the number of days from January 1, 1940. This number is further compressed and RMV ships dates over their telecom lines this way and decompresses/calculates the data at the client site. With this kind of logic in place, the year 2000 issues were not as serious for the RMV as they might have been. The storage of dates on their database was pretty much a non-issue, as the counting method mentioned above takes 2000 into account already (note, RMV will have to do a conversion in 2015 or thereabouts to move the reference date from 1940 to a more current date).

The display issues (for both screen and documents) were an effort as there were many cases where the century had been left off. These were fixed whenever RMV did anything else to the screen or print program and, for those that remained after a certain point, RMV simply went in and fixed all of them. Some were rather interesting: for instance, your license is active until 01/15/00. Not only would you need to change the screen, but also the document itself. And, because of a five year renewal cycle, RMV had to address this issue in 1994 and 1995.

ITD's Enterprise Applications Bureau (EAB)

Massachusetts Management Accounting and Reporting System (MMARS)

MMARS has already run into business processes that need to be able to recognize the new century. Fortunately, temporary, manual solutions have been found that allow the state's financial business to continue successfully.

The Comptroller's Office and EAB completed an exhaustive inventory of all the software components of MMARS at the

end of 1996. They had already decided that MMARS would not be replaced, but instead would be made Year 2000 compliant. Since MMARS is a complex and dynamic application, minimizing future maintenance costs was an important objective. With the General Ledger as the official source of financial data, it was also important to make the century as explicit as possible to reduce the opportunities for future reporting errors. Expanding all the date fields to capture the four character year was determined to be the best option for MMARS.

The MMARS Year 2000 team, comprised of Comptroller and ITD staff, has contracted with a vendor selected from the IT Services blanket to perform all the code remediation tasks. Database conversion and dataset expansion will be done by ITD, while the critical acceptance testing effort will be completed by the Comptroller staff.

Personnel/Payroll Management Information System (PMIS)

PMIS is also getting ready to be made Year 2000 compliant. Although the new Human Resource/Compensation Management System (HR/CMS) is in the works, its timetable leaves too little leeway to guarantee that the new system will be ready in time to replace PMIS. To insure that all the necessary personnel actions can be processed and, mostly importantly, that the payroll can be successfully run, PMIS will be updated.

The PMIS Year 2000 team is just finishing the inventory and analysis phase of this project. The best Year 2000 solution for PMIS will minimize the cost since ease of maintenance is a small concern for an application slated to be replaced in the near future. Bids will be solicited from the IT Services blanket vendors with the goal of starting this project in the spring of 1997.

Departmental Systems

Inventories and analysis of options are currently underway for applications that support the business activities of several departments. By the middle of March 1997, plans are expected to be in place for insuring that these systems are ready for the Year 2000. ♦

The Year 2000

R E S O U R C E S

Commonwealth Year 2000 Users' Group

ITD's Marcia King has started a Massachusetts State Government Year 2000 Users Group. Contact her by phone at 617-973-0711 or by e-mail at Marcia.King@state.ma.us

Year 2000 Publication

Information Technology Association of America: Year 2000 Solution Providers quarterly IT Industry Directory of software tools, conversion methods, professional and consulting services. Call 703-284-5302 or check out <http://www.ita.org/2000cert.htm>.

Industry association offering assistance re: the Year 2000

Information Technology Association of America. Call 703-284-5302 or check out their Web site at <http://www.ita.org/2000cert.htm>.

ITD Awareness Day Agenda (see calendar on page 9)

Topics will include an overview of the Year 2000 Problem, Legal issues, MMARS Update, Vendor Software Management, and Year 2000 Assessment, Conversion & Testing. Speakers will include representatives of Massachusetts state government, Unisys, System Resources Corp., Costello Associates, Intermetrics, Peritus, and DSD Labs.

IT Contract Vendors

A list of vendors on the consulting services blanket contract can be found at <http://www.state.ma.us/osd/memo/memotoc.htm>. Download OSD Update 97 - 14 and DPGS Memorandum 96-25.

Year 2000 Calendar of Events

◆ Y2K Awareness Days

March 5, 1997

Greater Boston Y2K Users Group

Bank Boston, 100 Federal Street, Boston, MA

April 2, 1997

ITD Awareness Day (see <http://www.eoaf.state.ma.us> for details)

One Ashburton Place, 21st Floor, Boston, MA

◆ Y2K Conference

May 20-22, 1997

Year 2000 Boston, Hynes Auditorium, Boston

Sponsored by DCI, 204 Andover Street, Andover, MA 01810,
508-470-3880; <http://www.DCIexpo.com/2000AD/>

Year 2000 Web Sites

◆ General

ITD Year 2000 site

<http://www.eoaf.state.ma.us>

Exec. Office of Admin. & Finance

<http://www.EOAF.state.ma.us>

Comptroller's Office

<http://www.OSC.state.ma.us/2000/intro.htm>

Official Y2K Website

<http://www.Year2000.com>

Info. Tech. Association of America

<http://www.ITAA.org>

Gartner Group

<http://www.Gartner.com>

(For a password, call Marie Carpenito at 617-973-0846.)

Computer Tech. Research Corp.

<http://www.CTRCORP.com>

Federal Government Services Admin.

<http://www.ITpolicy.gsa.gov/mks/yr2000/y201toc1.htm>

Governing Magazine Y2K articles

<http://web.governing.com/governing/92000.html>

National Assoc. of State Information

Resource Executives (NASIRE)

<http://www.NASIRE.org/conferences/y2k/index.html>

◆ Other States

Alaska

<http://www.state.ak.us/local/akpages/ADMIN/info/yr2000.htm>

California

<http://www.Year2000.ca.gov>

Florida

<http://mail.irm.state.fl.us/yr2000.html>

Indiana

<http://www.ai.org/dpoc/>

Minnesota

<http://www.state.mn.us/ebranch/admin/ipo/2000/2000.html>

New York

<http://www.irm.state.ny.us/yr2000/yr2000.htm>

Oregon

<http://www.state.or.us/IRMD/y2k/year2k.htm>

Pennsylvania

<http://www.state.pa.us>

Texas

<http://www.state.tx.us/standards.html>

Washington

<http://www.wa.gov/dis/2000/y2000.htm>

Requirements for Integrated Systems

As the Commonwealth embarks on a second major round of state government technology investment, IT managers must move towards integrated systems in order to better serve the needs of taxpayers, constituents, and the Massachusetts business and civic community. ITD is engaged in several projects that will assist in making integrated systems a reality. Three key projects are outlined below.

Project: X.500 Central Directory

Overview: Starting in 1995, a new strategy was sought to address the following issues for statewide electronic mail: difficulty in passing mail between agencies; problematic gateways between agencies; and synchronizing directories consuming unacceptably large amounts of support staff resources. In 1996, ITD selected Wang, partnered with Control Data Systems, to provide an integrated electronic messaging network with robust messaging and directory services for agencies across the state.

Status: Phase I of the project will enable email users in Massachusetts state government to exchange messages among the following environments: cc:Mail, Microsoft Exchange, Lotus Notes, GroupWise, Banyan VINES, ALL-IN-1, and POP3.

Benefits: Directory synchronization services will be provided between each of these environments which will facilitate easy addressing between all users. Each of the e-mail directories will be populated with all users from every other mail environment.

Contact: Jeffrey Flannery at 617-973-0757.

Project: TCP/IP

Overview: The TCP/IP protocol suite supports the Internet, the single largest computer network in the world. The TCP/IP protocol suite makes internets possible by providing common services over a diverse set of underlying network protocols and hardware. The key protocol in the suite is the Internet Protocol (IP), which provides a common address space and routes packets across an entire internet. The Transmission Control Protocol (TCP) allows extremely reliable data transmission over IP.

Status: The Commonwealth's Core Infrastructure network supports full TCP/IP addressing. The network was recently migrated to Open Shortest Path First (OSPF) routing protocol, resulting in a much more scaleable and hierarchical topology and improved response time. This was a complex change with many components. All the routers in the network needed to be upgraded to a new version of software, and full memory upgrades were required to support the new technology.

Benefits: TCP/IP is a world wide industry standard network protocol which will provide uniform access to Commonwealth resources, as well as access to the Internet.

Contact: For TCP/IP addresses and access to MAGNet, or for specific TCP/IP implementation requirements, contact ITD's Communication Services Bureau at 617-973-0738.

Project: Communications Bridge (CommBridge)

Overview: CommBridge will provide a mechanism for applications to communicate with other agencies' applications in a consistent, standardized manner. It will enable real time queries and updates as well as data streaming. Backup and recovery, store and forward, security, auditing, and protocol conversion will also be provided. The core components of the Communications Bridge include: the MAGNet WAN, IBM's messaging and queuing middleware product MQSeries, shared distributed application services, and application-specific interface modules.

Status: The pilot project for CommBridge involves replacing existing tape transfers between DTA and DOR. The focus of the pilot is to establish links between agencies, provide strong and rigorous links, and build an infrastructure which will be a robust, scaleable, and extensible interoperability solution.

Benefits: All Commonwealth systems will be able to communicate with each other in a standardized fashion using standard interfaces, eliminating the need to write a custom interface for each system to be communicated with. Even when an existing application's architecture or platform changes, its interfaces will potentially be unaffected by the change.

Contact: Debbie Seaward, by phone at 617-973-0845 or email at Debbie.Seaward@state.ma.us ♦

IT Briefs

MGIC RESUMES MEETINGS

The Massachusetts Geographic Information Council resumed a schedule of meetings with a session early in January, 1997, covering an overview of GIS activity in Massachusetts. The panel of speakers represented Federal, state, regional and municipal government, as well as higher education and the private sector. This very successful session was followed with a February meeting on TIGER and Census data with presenters from the same range of entities.

Future meetings will be held on the first Tuesday of each month. MGIC meetings are open to all interested parties, whether currently using GIS or contemplating GIS usage. For more information on MGIC and the user meetings, contact Carl Nylen of MassGIS at (617) 727-5227 x323 or cnylen@state.ma.us. To get on the MGIC mailing list, contact Elaine Socha of ITD at (617) 973-0865 or Elaine.Socha@state.ma.us.

ITD's COMMUNICATIONS SERVICES BUREAU ADOPTS NEW APPROACH

The mission of the Information Services (IS) within ITD's Communications Services Bureau (CSB) is to enable Commonwealth Agencies to focus on their primary function by providing a single point of contact to a knowledge base and expertise in communications technology within CSB. To accomplish this, IS has established a team approach to handling requests for service from state government agencies. What this approach means in practice is that when an agency calls requesting service, the IS team explores the ramifications of the request by phone and then schedules a meeting with the agency that includes all relevant experts from the CSB staff.

CSB services include network connectivity, video conferencing and consulting services, as well as technical and billing assistance and support regarding data and telecommunications. CSB can be reached by phone at 617-973-0738; by fax at 617-727-1509; by WAN e-mail at CSBSUPPORT@CSB@ITD.BOS; and by Internet e-mail at CSBSUPPORT@STATE.MA.US.

GIS DAY AT THE STATE HOUSE

More than 250 people, including many Massachusetts legislators, participated in GIS Day at the State House on February 12, 1997. This event was sponsored by the Massachusetts Audubon Society and the Massachusetts Association of Regional Planning Agencies. The afternoon event included introductory remarks, a panel discussion, and GIS exhibits by local, regional and state government. Speakers included representatives from state, regional and local government, and from higher education and the private sector. This event was coordinated with the filing of a bill in the Massachusetts Legislature by Senator Lois Pines and Representative Douglas Petersen. This bill proposes to coordinate and streamline the participation of federal, state, regional and municipal agencies in a statewide institution utilizing Geographic Information Systems.

NEW DRIVER'S MANUAL UNVEILED ON THE INTERNET

Current and future Massachusetts motorists have a new tool to make them better drivers. The Registry of Motor Vehicles unveiled in January, 1997, the new Driver's Manual for passenger vehicle and motorcycle operators, becoming the second RMV in the country to offer its driver's manual on the Internet. The manual is the most comprehensive document on the rules of the road and safe driving skills in the state's history. It is more than a study guide for future drivers. It is a useful resource for all drivers who desire to improve their driving knowledge and skills.

Check it out at <http://www.state.ma.us/RMV>. The manual is also available at all RMV locations throughout the state, and it can be requested by phone at 617-351-4500 or 800-858-3926 (from 508 and 413 area codes only) to receive the manual by mail. ♦

INFORMATION TECHNOLOGY DIVISION

One Ashburton Place, Room 801
Boston, MA 02108

The *Information Technology Bulletin* is a quarterly newsletter of ITD's Strategic Planning Group. One of SPG's tasks is to act as a clearinghouse for IT information. This publication furthers that goal. Please send correspondence to Managing Editor, Elaine Socha, the Information Technology Bulletin, Room 801, One Ashburton Place, Boston, MA 02108.

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Next publication: Summer 1997

Leonard Adams
UMASS - WEB DuBois Library
Government Documents
Amherst, MA 01003

A MESSAGE FROM THE CIO

Computer software and processing is pervasive in large modern enterprises, with the assumptions of prior designers embedded in date-handling logic for programs, networks, telephone systems, PCs, and even building control systems.

Every department should see it as both a technical and general management issue to insure that they can assure smooth operations as the department and its systems near 1999 and the year 2000.

This issue of the Information Technology Bulletin lists several resources that can be used to educate department staff on the nature of the challenge and how to meet it.

In general, a sensible and clear-headed approach will call for updating your department's inventory of critical systems (including PCs and phones), determining whether these systems were designed to handle dates beyond 1999, prioritizing any necessary changes, and insuring that any new systems procurements or development efforts are designed appropriately.

Please contact Marcia King on our staff with questions and comments regarding how the Information Technology Division can assist you in this effort. And assign a departmental representative to Marcia's Commonwealth Year 2000 Users' Group!

Sincerely,
T. Louis Gutierrez

INFORMATION TECHNOLOGY

AUG 21 1997
University of Massachusetts
Depository Copy

B U L L E T I N

Vol. 3 No. 2

Executive Office For Administration & Finance
Information Technology Division

Spring 1997

EOTC Secretary Promotes Intelligent Transportation Systems



A three vehicle accident occurs on Route 128 in Dedham at 7:30 a.m. on a Thursday morning in May. In less than a minute, the Massachusetts State Police Communications Center

in Framingham is notified that an accident has occurred and its location. Within minutes, the incident has been verified, additional details gathered and a response initiated. All this through the use of advanced technology and an incident management effort called the *SP Program.

On a snowy January afternoon, commuters and travelers in the metropolitan Boston region obtain up-to-the-minute information on travel conditions through SmarTraveler, a state-of-the-art nationally recognized Advanced Traveler Information System. Throughout this stormy day, the SmarTraveler system handles over 15,000 inquiries to the audiotext system. The information, assembled from fast and slow scan television cameras, the State Police and other agencies, allows travelers to make informed choices.

These stories provide just a glimpse of the wide array of projects and programs involving advanced technologies moving forward at the direction of the Secretary of Trans-

portation James J. Kerasiotes. Utilization of advanced transportation technologies to improve the safety, productivity and efficiency of transportation in the Commonwealth represents a key component of the projects in operation or being planned by the state's transportation agencies.

As Secretary of Transportation, Mr. Kerasiotes directly oversees the Massachusetts Highway Department (MassHighway), the Massachusetts Bay Transportation Authority (MBTA) and the Massachusetts Aeronautics Commission. He also provides guidance to the Massachusetts Turnpike Authority (MassPike) and the Massachusetts Port Authority (MassPort). In his capacity as Secretary of the Executive Office of Transportation and Construction (EOTC), Mr. Kerasiotes serves as the Chairperson of the MBTA, MassPike and each of the Commonwealth's Metropolitan Planning Organizations.

One of the primary transportation problems in urban areas of Massachusetts and many other parts of the nation which confronts transportation agencies is congestion. Traditionally, the problem of congestion has been addressed by adding new highway lanes or expanding mass transit. The advent of intelligent transportation systems has opened new opportunities. Examples of initiatives promoted by Secretary Kerasiotes include:

- The SmarTraveler Program, which uses an advanced audiotext system to disseminate real-time traveler information, is managed by MassHighway.
- The use of closed circuit television cameras in managing the HOV Lane on I-93 and as part of a comprehensive rehabilitation program for the Sumner and Callahan tunnels by MassPike.
- A 5-year \$25 million upgrade of the Operations Control Center for the MBTA that will provide real time automated vehicle identification and schedule adherence information.
- Design and construction of a short range communication system by Massport to automate and streamline ground transportation operations at Logan Airport.

EOTC Secretary
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IT Bond Update: HR/CMS

At the Comptroller's Open/Close meeting held on April 9, Personnel Administrator Joe Trainor announced that the new integrated Human Resources and Compensation Management System (HR/CMS) will shortly be ready to move forward. He indicated that the final HR/CMS contract would be signed soon leading to a 32 month project during which Andersen Consulting will provide system integration services to assist the Commonwealth in implementing PeopleSoft, Inc.'s human resources and payroll package.

HR/CMS was authorized by the 1992 Information Technology Bond Bill to replace the existing legacy human resource and payroll systems - PMIS, CAPS and MAGIC. According to the project overview developed by the Human Resources Division (HRD), these systems:

- do not fully meet the Commonwealth's business requirements and have hobbled the Commonwealth's ability to attain key policy objectives and implement new programs;
- are difficult to use for beginning and even expert end users; and
- are extremely difficult, time consuming and expensive to maintain and enhance.

HR/CMS will be a unified, statewide and fully integrated application based on proven, powerful client/server technology using a Microsoft Windows based graphical user interface. It is anticipated that HR/CMS will provide a rich and adaptable set of functions and capabilities to meet the Commonwealth's human re-

source/compensation management needs today and into the future. When fully implemented, HR/CMS will cover more than 84,000 employees, contractors and other individuals throughout all branches of State government.

PeopleSoft is a client/server application pioneer and market leader and its human resources and payroll product suite has been implemented in many Fortune 1000 companies and in such states as Kansas, Minnesota and Vermont. Last fall, the State of New York began to implement PeopleSoft to process payroll for over 250,000 employees. Andersen Consulting has an extensive track record in implementing PeopleSoft applications serving as the systems integrator for the Kansas, Minnesota and New York projects and has developed many extensions to the PeopleSoft product to meet public sector requirements.

At the Open/Close meeting, Trainor said that an interesting aspect of the implementation is that sixty percent of the work effort will be completed by the state and forty percent by the vendor. Equally important, the Commonwealth will not customize the PeopleSoft software to ease upgrades to future releases and to reduce development and implementation costs. "The opportunity and challenge we face is tailoring our business practices to the software," he said. He also credited the members of the project team for the long hours they dedicated to finally bringing HR/CMS closer to reality. Through their hard work, he said the Commonwealth will enhance its ability to manage its workforce and deliver high quality, cost effective human resource programs and services. ♦

EOTC Secretary

Continued from page 1.

- In cooperation with the State Police, MassHighway and MassPike, established a statewide system for emergency call-in via cellular telephone by dialing *SP (*MSP west of Worcester) involving signing, mile markers and an advanced communications center.

In the future, advanced systems for highway automation might enable highway capacity to be expanded without adding lanes by improving surveillance, verification and dispatch of emergency vehicles, or through schemes that automatically control traffic signals in response to changing conditions. Appropriate technology applications, especially in the collection of real-time data, data management and data dissemination in the realm of Advanced Traveler Information could also be used to induce changes in traveler behavior. New technologies for automated toll collection and fare payment systems also provide new opportunities to

reduce delays and improve overall operating costs.

Intelligent transportation systems provide transportation organizations with new ways of approaching today's transportation needs. Intelligent transportation systems bring the concept of a seamless transportation system closer to reality by requiring that individual agencies share information and that operational decisions made within each system such as sign messages, alternative routing, signal timings, etc., consider current conditions and impacts on other agencies.

Secretary Kerasiotes was appointed Secretary of Transportation in 1992 and since then he has acted to bring financial responsibility and increased productivity to the state's transportation agen-

EOTC Secretary

Continued on page 9

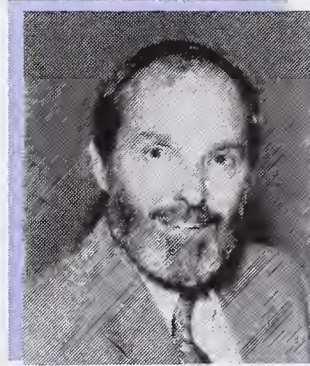
RMV CIO Focuses on Customers

To David L. Lewis, Chief Information Officer for the Registry of Motor Vehicles, the word 'customer' means a lot. The RMV is the largest non-tax revenue maker in the Commonwealth, taking in over one billion dollars in direct and indirect revenues each year. "However you measure it, the RMV is a very large transaction business," said Mr. Lewis. And a business of that size means lots of customers.

"Without fail, we touch almost everyone in the Commonwealth — one way or the other — through license renewals, automobile registrations, accident reports, titles, etc.," said Mr. Lewis. "Sometimes it is even difficult to clearly define who our customer is," he said citing the police, insurance agencies, banks and car owners as some examples of those who interact with the RMV. One of his goals as CIO is to try and make it easier for these customers — wherever they come from — to deal with the RMV while also improving the quality of the data that the agency keeps.

As an example, Mr. Lewis pointed to a new program that allows automobile dealers to issue registrations on site. This time saving application is currently available through approximately one hundred dealers who utilize a dedicated peer to peer system connected to the RMV. There are plans to expand this system statewide in the future. The RMV is also working with area banks on electronic lien transactions to speed up the car buying process.

There are also a number of other examples of speed and efficiency that can be attributed to information technology at the



RMV. Last year, the agency implemented a very successful program that allows drivers to renew their registrations or pay citations over the Internet. Soon customers will be able to purchase license plates over the Internet as well.

Another successful use of information technology that Mr. Lewis cited "is not real visible or glamorous but nonetheless important." The RMV now has the capability to capture facial images as well as signatures on driver licenses. This identification program, which helps cut down on the chances of fraud, ties into a photo imaging system that began approximately two years ago. Approximately one million images are now on file.

Mr. Lewis said that the RMV is always willing to try innovative ideas and having a Registrar with an entrepreneurial background helps. "We are willing to take risks but we also remember that we need to think through who is going to be at the other end of the transaction," said the CIO. Mr. Lewis also has a strong back-

ground in information technology innovation.

He was initially recruited in 1985 by Administration and Finance to design and build a replacement for the RMV's antiquated registration and licensing systems and to automate as much of the agency as possible. As part of this effort, he issued a Request for Proposals, selected a vendor and undertook a twenty-two month, \$15 million development that resulted in the implementation of a large integrated, on-line system known as ALARS (Automated Licensing and Registration System). ALARS currently handles \$700 million in on-line payments and \$425 million in indirect payments each year, and 900,000 to 1,000,000 transactions daily.

In 1992, Mr. Lewis became an employee of the RMV as Senior Deputy Registrar and Chief Information Officer. He is currently responsible for Licensing, Registration, Titling and Suspensions policy, Customer Service/Telephone Center and Management Information Systems. Mr. Lewis

has worked for the state for 25 years and is involved in a number of national information technology committees. He has an MBA from Suffolk University, an undergraduate economics degree from New England College and a certificate from Harvard University's Kennedy School of Government. ♦

***"However
you measure
it, the RMV is
a very large
transaction
business."***

— Open/Close

Closing out FY 97 and opening FY 98 were the topics of the Commonwealth's twelfth Closing/Opening session on April 9th and teamwork was high on the agenda.

Secretary of Administration and Finance Charles Baker got the ball rolling by thanking the standing room only crowd at the Federal Reserve Building for their efforts over the past year. Secretary Baker pointed to the success of the Commonwealth's most comprehensive review of regulations completed to date and the successful efforts at procurement reform. Some of these efforts focused on the benefits of information technology and "now we're using the Internet more than the post office," he said. As an example, he pointed out that there are now over 300 vendors registered electronically and the state's web site is receiving approximately 10,000 hits per month.

Regarding the Year 2000 (Y2K) challenge, Secretary Baker expressed his confidence in the problem solving skills of those assembled. "This is certainly an issue that needs to be dealt with in a comprehensive way," he said. But the Secretary expressed his belief that time, attention and hard work will help solve the problem. "And the people here have demonstrated they're not afraid of these things," he said.

The Commonwealth's Chief Information Officer, Louis Gutierrez echoed the Secretary's sentiments and cautioned against waiting too long to take action on Y2K. "The earlier people begin addressing the problem, the better," he said. "If you wait until this time next year it will be too late." The CIO distributed a compre-



hensive guidebook on meeting the Y2K challenge that will serve as a resource to those in attendance. The document included a survey from the State Auditor's Office, which every department will be asked to complete. In addition, every department will be asked to identify a Y2K coordinator.

CIO Gutierrez also focused his attention on the 'Big Buy'. Under the 'Big Buy', purchasing power is pooled to obtain volume discounts. Over the past three years, various departments have purchased more than 2,600 PCs through this program.

Comptroller William Kilmartin provided updates on past successes that had been funded by IT Bond I money. For example, he announced that Electronic Benefits Transfer (EBT) was implemented in Southeastern Massachusetts on April 1 and will continue to be implemented throughout the state during the spring and summer. With EBT, instead of food stamps and welfare check, the money is deposited into an account for each Department of Transitional Assistance client. The money is then accessed with a debit card at ATMs or grocery store point of sales (POS) devices. This approach lowers operating costs by approximately one million dollars per year (the program will pay for itself in five years) and simultaneously reduces the opportunities for fraud and mainstreams the clients into electronic banking. The Comptroller stated that in the future, other types of electronic commerce would be deployed.

Other speakers also provided updates and reviewed some key information regarding closing the FY97 books and opening the FY98 books. Deputy Comptroller Susan Kanak informed the

Meeting

group that her office is planning to implement Y2K compliant four digit years (on screens and reports, and in the database) in MMARS over a long weekend in February 1998. She also reported on improvements in the 1996 Single Audit over the prior year and announced that reports are available on the Internet from inside MAGNet at <http://www.osc.state.ma.us/> and from outside MAGNet at <http://www.state.ma.us/osc/>. OSC Bureau Director Kathie Still reviewed key dates relative to the closing of the FY97 books and Deputy Comptroller Elizabeth Kilcoyne reviewed key elements relevant to the opening of the FY98 books.

Other featured speakers on the agenda included Tom Graf from the Budget Bureau who spoke on some key budget related topics, reinforced critical dates and thanked everyone for their support and cooperation. Personnel manager Joe Trainor gave an update on HR/CMS (see related story on page 2). Philmore Anderson, the State Purchasing Agent reported that the Commonwealth is in the throes of procurement reform and some of the impacts have included the elimination of 45 pages of regulations. "We are fostering better planning, getting better contracts and better contract management," he said.



Gary Lambert spoke on Comm-PASS and recognized the team members who have worked so hard for the past year. He stated that Comm-PASS underwent three enhancements in one year and became live as of March 12, 1997. With Comm-PASS, paper distribution of solicitations will cease next year and will be all electronic. In addition, Kyle Keady from the Treasury announced that direct deposit of the weekly draw for CAPS departments will soon be available. ♦



Opposite page: Secretary Baker thanks the participants for their efforts over the past year.

This page, top: Comptroller Kilmartin describes the state's growing electronic commerce activity.

Bottom: CIO Gutierrez urges early action in meeting the Year 2000 challenge.

Photos by Jerry Shereda.

Who's Doing What Regarding The Year 2000

ITD Y2K Awareness Day

The Information Technology Division (ITD) held a Year 2000 Awareness Day on April 2, 1997 on the 21st floor of One Ashburton Place in Boston. There were approximately 100 participants who came to hear the speakers and meet the vendors. In addressing the group, Lieutenant Governor Paul Cellucci emphasized the commitment of the Weld/Cellucci administration toward making information technology investments to bring the Commonwealth into the modern world. He said, "The Commonwealth is meeting the Year 2000 challenge head on." Lieutenant Governor Cellucci stated that this stance is important for the economy, commerce and public safety.

In his opening remarks, CIO Louis Gutierrez reviewed a schedule of critical deadlines in the Y2K work effort. He said, "This is absolutely a strategic system going to the heart of statewide service delivery. It's not a glamour job but a bread-and-butter job that has to get done right." CIO Gutierrez also took the opportunity to introduce the Strategic Planning Group's new director, Val Asbedian.

Deputy State Auditor John Beveridge described the survey being mailed to all executive branch agencies and constitutional offices to determine their awareness and plans for dealing with the Y2K challenge. Deputy Auditor Beveridge indicated that the purpose was to provide assistance with managing the Y2K issue.

Several vendors on OSD's consulting services blanket contract who also offer Y2K services were available to discuss these services and also to speak on various Y2K issues. Edmond Andersson of System Resources Corp. described the MMARS update project. Clifford Smith of Costello Associates addressed the topic of vendor software management. David Antonitis of Intermetrics described the Y2K assessment process; Johnson Hart of Peritus spoke about conversion; and Michael Sicuranza of DSD Labs spoke on testing. In addition, the topic of Y2K contractual and legal issues was tackled by Jeff Jinnett of LeBoeuf, Lamb, Green & MacRea, LLP.

ITD's Y2K coordinator Marcia King moderated the event and announced plans for ITD to host another Y2K Awareness Day on



Lieutenant Governor Cellucci addresses the Year 2000 Awareness Day participants.

June 12, 1997. The June event will emphasize the activities of desktop software vendors such as Microsoft and Oracle, and telecom vendors such as NYNEX and Lucent, in making their products Y2K compliant.

Auditor's Survey Issued

The Office of the State Auditor issued their Year 2000 survey in April to all executive branch agencies and constitutional offices. The purpose of the survey is to assess awareness and plans for dealing with the Y2K challenge and to identify where assistance may be required. The survey is included in the material on the Y2K Web site at <http://www.state.ma.us/y2k/>.

New England Y2K Conference Planned

In interactions with Y2K coordinators from other New England states, ITD's Year 2000 coordinator Marcia King has begun preliminary discussions about a possible New England Year 2000 conference in the fall of 1997. Check out ITD's Y2K Web site for further information at: <http://www.state.ma.us/y2k/>. ♦

Year 2000 Resources

OSD's Year 2000 Activity for Statewide Contracts

The Operational Services Division (OSD) is proceeding with efforts so that all IT contracts will be Year 2000 compliant. The new PBX contract has compliance provisions, and all other contracts will have these provisions in the future. All new statewide contracts from this date forward will have requirements for year 2000 compliance for all products, services and systems. Existing contracts will be amended at renewal time. Until then, ordering departments need to specify the year 2000 compliance requirement with all orders and requests for quotes.

OSD is also surveying vendors on existing contracts about Y2K compliance with the objective of making this information available to all departments and Commonwealth entities so that the state will be making purchases only from Year 2000 compliant vendors.

Year 2000 Web Sites (see Winter 1997 issue for more listings)

Massachusetts

ITD: RFR and contract language
DOR's Division of Local Services
Operational Services Division

<http://www.state.ma.us/y2k/>
<http://www.state.ma.us/dls>
<http://www.state.ma.us/osd/osd.htm>

Other States

Nebraska
Virginia
Texas (re agency assessment)
Texas U. (re vendor certification)

http://www.das.state.ne.us/das_cdp/rfp/inet.htm
<http://www.cim.state.va.us/cdc/index.html>
<http://www.dir.state.tx.us/>
<http://titanium.utsystem.edu/itmc/yr2000/>

Other Organizations

Com.*Links* Magazine
LeBoeuf, Lamb, Green & MacRea, LLP
Articles re legal issues
Official Y2K Website
Re: Legal Issues

<http://www.comlinks.com/>
<http://www.llgm.com/FIRM/articles.htm>
<http://www.Year2000.com/y2karchive.html>

Assistance Available from ITD's Strategic Planning Group

The Information Technology Division's Strategic Planning Group (SPG) will provide three types of support services with regard to the Year 2000 Project:

SPG will foster awareness and exchange of technical information by hosting the monthly meetings of the Massachusetts Government Year 2000 User Group; by including Year 2000 information in each quarterly issue of this newsletter; by hosting Year 2000 awareness and vendor days over the life of the Project; and by maintaining a Year 2000 Web site at <http://www.state.ma.us/y2k/>.

SPG will provide coordination and support by making available two Web-enabled PC's so that agencies without Internet access can do Internet research on the Year 2000 at SPG's location (Room 801 at One Ashburton Place in Boston); by maintaining a library of Year 2000 information; by assisting agencies in selecting tools for Year 2000 fixes and in preparing assessments and plans to address the Year 2000 challenge; and by publishing standards for definitions of Year 2000 compliance and by suggesting RFR and contract language.

SPG will monitor statewide efforts and report on progress by maintaining a database to track Year 2000 assessment, planning, validation and implementation activities by agencies; and by working with the State Auditor's Office to analyze information gathered in the Auditor's survey described on the opposite page.

Massachusetts Electronic Records and Signatures Act

As a major transaction and information processor, state government has made extensive use of computer systems since the 1970s. The explosive growth of the Internet, however, is ushering in an entirely new era in the way the government interacts with citizens, customers, regulated entities, vendors, and any other group that deals with the government. The application of Internet-based electronic commerce solutions to the business of state government has brought us to the dawn of on-line government.

Massachusetts is already a national leader in this field. The Registry of Motor Vehicles web site (<http://www.state.ma.us/rmv>) includes an "Express Lane" where people can renew registrations, pay citations, and order duplicate registrations using a credit card, as well as apply for disabled placards and plates and vanity plates. The RMV has the distinction of offering the first Internet-based services of any government entity in the country. In addition, the Division of Banks and the Office of Consumer Affairs will shortly introduce a service that will allow banks and other financial institutions to submit weekly mortgage rate information via the Internet. Because DOB requires this information to be signed, they have been working with OCA and the Information Technology Division to use sophisticated encryption technology to authenticate these submissions. Once operational, these will be the first authenticated Internet transactions offered by any government in the country.

Despite these exciting advances, one of the factors slowing more widespread use of the Internet for government transactions is the legal uncertainty surrounding the use of electronic media rather than traditional paper-based systems. For example, a search of the Massachusetts General Laws reveals over 4,500 sections that refer either to written documents or signed documents. This has generated substantial uncertainty as to whether an electronic transaction will have binding legal effect.

To address this uncertainty, the Information Technology Division, at the direction of the Executive Office for Administration and Finance, has been working to draft legislation that would confirm the ability of state agencies to use electronic transactions even when there is a law requiring a written or a signed instrument. The Massachusetts Electronic Records and Signatures Act (MERSA) is designed to validate on-line government without forcing agencies to abandon paper-based systems until they are ready to do so. A copy of the latest version of MERSA is available on the ITD legal department's web site (<http://www.state.ma.us/itd/legal>).

In brief, MERSA states that where any law requires a writing, that law is satisfied by a "record." The statute defines a record as "information that is inscribed on a tangible medium or that is stored in an electronic or other medium and is retrievable in perceivable form . . . [including] electronic records and written records." Regarding

signatures, MERSA provides that where any law requires a signature of a person, that requirement is met by that person's electronic signature. In addition, MERSA explicitly states that agencies "may create and receive electronic records in lieu of written records, and may also convert written records to electronic records." Realizing that not all agencies are ready to support electronic transactions, MERSA provides that nothing in the statute shall be construed to require any agency to use or permit the use of electronic records or signatures.

While several states have already adopted so-called "digital signature" laws, MERSA represents a new approach that is rapidly gaining favor with other states. Unlike the first digital signature law enacted by Utah and copied by several other states, MERSA is "technology neutral" in that it does not specify the type of technology that parties must use to gain the benefits of the law's provisions. In addition, MERSA is non-regulatory, whereas Utah-style laws impose stringent licensure requirements for certain companies that provide services related to digital signatures.

Anyone interested in learning more about MERSA, digital signatures, or on-line government, should contact Ray Campbell (ITD General Counsel, 973-0093) or Dan Greenwood (ITD Deputy General Counsel, 973-0071). ♦

Pilot Program Joins Franklin Registry of Deeds with Secretary of State

There has been considerable publicity lately regarding the Commonwealth of Massachusetts assuming some or all of the duties of county government. A number of bills have been filed in this regard and one piece of legislation in particular, HB 3184, seeks to transfer the county Registries of Deeds to the administration of the Secretary of State's office.

There are currently 21 Registries of Deeds offices throughout the 14 counties of Massachusetts. These offices received and processed nearly 1.5 million documents during FY 96, generating revenue of nearly \$110 million. However, the filing and administrative procedures differ greatly among the various offices. Some Registries of Deeds offices in counties such as Middlesex and Essex are at the forefront of computer technology while other smaller offices, particularly in the western region of the state do not have the same resources. Recognizing these disparities and the coming changes to county government, a report developed by a special Registries of Deeds Transfer Study Committee states, "With the uncertainty concerning the future of county government, it is imperative that an orderly transition be effected to ensure that high standards of service and efficiency are maintained."

The study committee included Secretary of State William Francis Galvin; Michael J. Ring, President of the Massachusetts Registers and Assistant Registers of Deeds Association; and Harry M. Grossman, Director of the Division of Local Services in the Department of Revenue. They came up with a number of recommendations (which have been filed as HR 3184), including keep-

ing the position of Register of Deeds an elected office and including the 21 Registries in a single line item within the Secretary of State's budget.

If the legislation is successful, the transfer will most likely be modeled on what is currently occurring in Franklin County. There, the Secretary of State's office has already begun the process in conjunction with the Franklin County Register of Deeds. Part of that process has included upgrading computer equipment and connecting the Franklin County office to MMARS and e-mail. According to Assistant Secretary of State Kevin Harvey, if the Registries of Deeds are eventually transferred to the Secretary of State's office, Franklin County will serve as a prototype. "While we do not want to reinvent the wheel for those counties that are computerized, we want to create a standard package that will modernize and reduce the paperwork in the Registries of Deeds offices," he said.

His statements were echoed by the Secretary of State's Chief of Staff Jack McCarthy. "If the transfer comes to pass, it must be properly funded and maintained to avoid chaos with the property owners" he said. "We want to make it easier for consumers to get access to information." He said that by bringing all the information under one agency and upgrading offices like Franklin, a better sharing of data can occur while the individual offices are freed up to serve their local customers. "It's not unlike our relationship with town clerks who continue to run the day to day operations," he said. ♦

EOTC Secretary

Continued from page 2.

cies, while at the same time working to improve the safety and efficiency of the system. The MBTA budget has been cut by over \$100 million while service has improved and safety enhanced. MassHighway has launched the nation's most aggressive highway maintenance privatization effort, generating \$17.3 million in savings and benefits. The largest public works project in the country — the Central Artery/Ted Williams Tunnel project, which will be one of the most technologically advanced sections of highway in the world — has moved from design to construction, with more than 300 companies and 9,000 people employed.

Secretary Kerasiotes' efforts have earned him recognition from national periodicals such as the Wall Street Journal and Forbes Magazine. In 1994, he received the Distinguished Service Award from the American Public Transit Association and in 1995, he received the Better Government Award from the Pioneer Institute. He holds a Bachelor Degree from the State University of New York at New Paltz and a Masters Degree from Northeastern University where he serves on the Board of Overseers. He also serves on the Board of Trustees for Hellenic College. ♦

IT BOND II UPDATE:

Education Technology

On April 4, 1997, Governor William F. Weld and Lt. Governor Paul Cellucci announced the third round of grant funding from the Education Technology Bond Bill. The Ed Tech Bond is actually a part of the larger Information Technology Bond Bill II, which was signed into law by the Governor on August 9, 1996. Among other things, the Ed Tech Bond authorized \$30 million for matching grants to local school districts. These grants, which the bill sets at \$30 per student, are awarded to districts that have a local technology plan approved by the Department of Education. To be eligible, districts must match the state money 3:1.

As a result of this announcement, all 203 of the state's 347 school districts that have submitted local technology plans to DOE have been selected for funding. The total amount of grants awarded so far is \$19.7 million. The ten largest recipients to date are: Boston (\$1,898,790), Springfield (\$707,520), Worcester (\$702,570), Brockton (\$451,050), New Bedford (\$437,850), Lynn (\$409,260), Fall River (\$369,810), Newton (\$320,400), Quincy (\$260,880), and Haverhill (\$242,010).

The announcement by the Governor and Lt. Governor was made the day before the state's second NetDay on April 5, 1997. The first Massachusetts NetDay was held on October 26, 1996, at which time the first round of Ed Tech matching grants was announced. NetDay started in California in March 1996 as an industry-sponsored ef-

fort to get volunteers and corporate sponsors to wire schools and provide access to the Internet. Governor Weld and Senator Kennedy are honorary co-chairs of Massachusetts NetDay.

By all accounts, Massachusetts has had one of the most, if not the most, successful NetDay operations in the country. More than 400 schools and 3,000 volunteers participated in the first NetDay, while 450 schools and 3,000 volunteers participated in the second NetDay. In addition, hundreds of businesses in the Commonwealth donated an estimated \$8 million in products and services in support of NetDay. Because of this participation, over half of the state's school districts, and over a third of the state's school buildings, have benefited from NetDay activities. All told, Massachusetts schools have received an estimated \$12 million dollars in support of Internet access as a result of the two NetDays.

In addition to NetDay and the local grant process, there are a number of other education technology initiatives being pursued. The most notable are:

Lighthouse Schools Program

From the 25 districts in the first round of Ed Tech matching grants, the state chose 13 districts to serve as models and mentors (Lighthouse Schools) for other districts. DOE intends to expand this program using federal funds.

Internet Accounts for Educators

ITD and DOE are working to implement the Governor's commitment to provide every public K-12 educator (all 70,000) with a low cost Internet account before the start of the next school year. ITD/DOE recently completed an RFI process and expect to issue an RFR in May to select a vendor(s) to provide these accounts.

Internet Access for Schools

ITD and DOE are exploring the possibility of establishing a blanket contract for schools to purchase high-speed connections to the Internet. The Federal Communications Commission will issue a ruling in May on the "universal service" provisions of the Telecommunications Act of 1996 that is expected to provide schools with discounts ranging from 10% to 90% on the cost of Internet access.

Professional Development

DOE has selected a vendor to provide schools with one-stop information about the full range of professional development offerings available for teachers. DOE also plans to use \$1.2 million in federal funds for needs-based professional development grants for districts. ♦

GENERAL RESOURCES

PC's Available to Commonwealth Employees at Big Buy Prices

Staff from OSD, the Budget Bureau, the Comptroller's Office and ITD once again coordinated a "Big Buy" for Information Technology equipment for state agencies. The Big Buy Team announced that the vendors selected agreed to extend their significantly discounted prices to all Commonwealth employees. Standard configurations (with no additions or substitutions) are available through the end of FY97, at the discounted prices. For more information, see the Big Buy Internet site at <http://www.magnet.state.ma.us/itd/bigbuy/>.

One of the Big Buy vendors, CIC Systems, Inc., has further agreed to make the Hewlett Packard PC Workstation configuration (@ \$1,975) and the AST Notebook Computer configuration (@ \$3,051) available to Commonwealth employees through December 31, 1997. Employees interested in purchasing equipment for their personal use should contact CIC's Stu Kaplan at 617-320-8300 x3155.



*National States Geographic
Information Council*

7th Annual Meeting **RISING TO THE CHALLENGE: IDEAS • SOLUTIONS • ACTIONS**

September 12-16, 1997
Resort at the Mountain • Welches, Oregon

– Highlights –

MetaData Tools

Roll Call of States

GIS Councils & Unique State Activities

State, Federal and Private Sector Partnerships

NSGIC/FGDC Framework Survey Discussion

Gala Dinner at Timberline Lodge

Golf Clinic & Tournament

For more information call NSGIC at 603-643-1600

Commonwealth Standards

The standards for Personal Computers and Servers have been updated. A standard for Notebook Computers has been added. The Commonwealth Web Site contains these and other standards and guidelines as well as white papers and other interesting information. The address is: <http://www.magnet.state.ma.us/itd/standard/>.

Over the next few months, the remaining standards will be updated or replaced.

Information Technology Bulletin: Now Available On The Web

The IT Bulletin is now available on the Commonwealth Web Site at <http://www.magnet.state.ma.us/itd/bulletin/>. Starting with the Winter 1997 issue (Vol. 3 No. 1), each issue will be available on the Web at the same time as the paper copies are mailed. Please let us know if you no longer need to receive a paper copy by sending email from the bottom of the on-line Bulletin's Table of Contents. ♦

INFORMATION TECHNOLOGY DIVISION

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The *Information Technology Bulletin* is a quarterly newsletter of ITD's Strategic Planning Group. One of SPG's tasks is to act as a clearinghouse for IT information. This publication furthers that goal. Please send correspondence to Managing Editor, Elaine Socha, the Information Technology Bulletin, Room 801, One Ashburton Place, Boston, MA 02108.

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Susan Edmonds

George Fingold Library

State House, State Library Room 442

Boston, MA 02133

A MESSAGE FROM THE CIO

I am writing this issue's message from a plane over western Texas, on one of the new Palmtop PCs running Windows CE (the HP 320LX, which fits in a coat pocket like a calculator, but packs the power of Microsoft Word, Excel, Internet Explorer, organizer tools, and e-mail). If I'm lucky the cell phone in the back of the plane will let me send this to Elaine Socha, newsletter editor, before I cause her to miss publication deadline (and because I work for the most fiscally conservative guy in state government, none of this is on taxpayer nickel -- just an avid technologist exploring the limits). Which all simply goes to the point that we live in a world where powerful processing gets smaller year-by-year, and communications networks -- wireless, fiber, or older infrastructure can connect us together from the remotest places.

We are at the end of Fiscal Year 1997, having seen the many worthwhile initiatives of IT Bond I tapering off, as IT Bond II initiatives begin to leave port. I think it's a good time to pause and thank colleagues for the joint effort that has kept Massachusetts state government information technology momentum going in the face of many challenges.

FY98 is the year that we need to complete the lion's share of remediation work for Year 2000 compliance. Let's put this challenge to rest early.

Sincerely,
T. Louis Gutierrez

INFORMATION TECHNOLOGY

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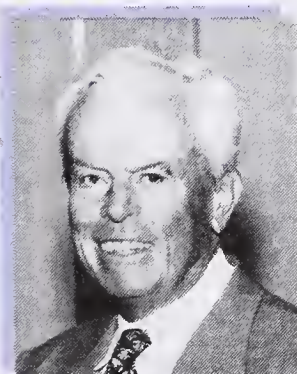
B U L L E T I N

Vol. 3 No. 3

Executive Office For Administration & Finance
Information Technology Division

Summer 1997

Chief Justice Sets IT Goal for Trial Court



Chief Justice John J. Irwin, Jr. became Chief Justice for Administration and Management of the Massachusetts Trial Court in 1994. In this capacity, Chief

Justice Irwin, among his many broad responsibilities, oversees information technology and has set a goal to fully automate the Trial Court and the rest of the Judicial Branch. The Chief Justice said that he sees the day in the not too distant future when the Trial Court receives case filings electronically from criminal justice agencies and from private attorneys, moves cases through court with minimal paper handling and, upon adjudication of cases, notifies all concerned parties electronically.

"Our IT plans will enable us to exchange information electronically with the Department of Correction and the Sheriffs, and to receive not only an electronic case filing from a police department but also fingerprints and digitized photographs of prisoners. This will help minimize the possibility of incorrect identification of a defendant and decrease the risks for everyone dealing with the individual," said

Chief Justice Irwin. "I also expect that we will see the day in the next year or two when we begin to produce electronic transcripts of proceedings, making information available much more quickly to parties to the case. This same facility will expedite assembling the record for appeals, an important step in reducing the time to bring cases to real closure when they involve serious offenses such as first degree murder."

By using information technology to comprehensively address the needs of the entire Trial Court system, the Chief Justice envisions an increase in the availability and consistency of information, which will increase accountability within the Trial court. This comprehensive approach will also make information accessible to the bar, the public and other "justice enterprise" entities, improve the integrity of records, and bolster public confidence in the Trial Court's ability to deliver justice.

To date, the Trial Court has significantly upgraded its central computing capacity by replacing the mainframe computer that supports systems used by probation departments throughout the state and the jury selection system operated by the Jury Commissioner. Additional accomplishments included:

- "Opened up" the mainframe with a replacement system that includes an NT "personality";
- Added software that will enable the Trial Courts to interconnect the Warrant Management System (WMS) with Probation systems;
- Added capacity to the central server that supports WMS;
- Delivered notebook computers to almost 200 judges who had limited access to computers prior to this distribution;
- Developed an infrastructure architecture that will guide the network and platform advances over the next several years; and

Chief Justice Sets IT Goal

Continued on page 2

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FY 97 Big Buy Garnerers Great Discounts

For the past three years the Office of the State Comptroller, together with the Budget Bureau, the Information Technology and Operational Services Divisions of the Executive Office for Administration and Finance, have coordinated an Information Technology "Big Buy" for Commonwealth departments. The Big Buy is a centralized effort which pools together information technology equipment orders across state departments in order to obtain volume discounts from vendors.

For FY97, the equipment available through this initiative included Commonwealth standard configuration PC workstations from three manufacturers, minimum and standard configuration notebook computers, printers and servers. A Request for Quotes issued to vendors on the Commonwealth's Information Technology statewide contract resulted in prices which represent savings in the range of \$600 to \$800 per system from mail order (for example, DELL on-line and PC Mall) and/or retail prices (for example, Lechmere and CompUSA). The Big Buy prices also represent an average \$600 savings per unit over regular Commonwealth statewide contract prices. As an example of Big Buy prices, PC workstations which are Pentium full multi-media systems including the latest 32-bit operating systems and 17 inch monitors, are all under \$2,000.

According to the vendors involved, this year's Big Buy is the largest volume pricing/purchase initiative undertaken to date in either the private or public sector. Final orders were received from 49 departments for a total of 1,450 PCs, 203 Notebooks, 131 Printers and 8 Servers. These orders add up to a total of

\$6.5 million which represents more than \$2 million in savings over regular Commonwealth blanket contract prices. In addition, the special pricing has been extended to municipal and county government as well as to state employees.

This year's initiative included the following innovations:

- Recommendations from the technical and user communities were incorporated for requirements and manufacturer preference.
- Requirements were included for original manufacturer components.
- Manufacturers were negotiated with directly, in addition to getting "best and final" quotes from resellers.
- Equipment was tested extensively by ITD employees to assess compatibility with Commonwealth enterprise applications and network operating systems.
- All workstations and notebooks available for purchase were on display at the Information Technology Division for viewing and evaluation by departments and employees.
- Big Buy prices for selected systems (now also including Dell) were extended beyond June 30 for continued purchasing into FY98.
- The Big Buy was publicized widely through the World Wide Web (Internet) and mass mailings to cities, towns and counties.

For more information about ordering in FY98 at Big Buy prices, see the Big Buy web site at <http://www.magnet.state.ma.us/itd/bigbuy/>. ♦

Chief Justice Sets IT Goal Continued from page 1.

- Began pilot implementations of the infrastructure design by establishing NT-based LANs at several court locations and continued in the efforts to reach the long-term goal of providing a desktop computer wherever one fills a productive role.

"We have already invested a great deal of work in developing an information technology plan to achieve our goal of full automation of the Trial Court. We expect the pace of our efforts to pick up as we bring in a systems integrator to work

under the direction of the IT Department," the Chief Justice said. "I count myself lucky to be able to rely on two key people — Lynne Reed, the Executive Director of the Administrative Office, and Rich Duggan, the Director of IT for the Trial Court — to keep this project moving forward successfully. Lynne and Rich will continue to lead and direct this effort, following the path that I set with their advice. In addition, I am fortunate to have the benefit of the counsel of the Supreme Judicial Court and a 27-person Information Technology Advisory Committee which I named last fall." ♦

Department of Education Chief Information Technology Officer Sees Profound Change Ahead



Greg Nadeau is currently serving as Chief Information Technology Officer for the Massachusetts Department of Education. In this capacity, he oversees:

- the Department's internal technology systems, including DOE LAN, WAN, PCs and peripherals, help desk, and technology training center;
- the development of a comprehensive information management system (DOE IMS) which will automate and decentralize the K-12 data collection and reporting process and establish a foundation for the accountability systems called for in the Education Reform Act of 1993;
- implementation of the Massachusetts Universal Access Plan which will provide all educators with toll-free, dial-up Internet accounts and high speed dedicated links from schools to the Internet; and
- statewide coordination of instructional technology initiatives, including the local technology plan approval process, Lighthouse Technology Sites,

the Federal Challenge Grants, and the Technology Training and Professional Development (TTPD) system.

Prior to overseeing the Department's technology initiatives, Mr. Nadeau directed the Department's strategic planning efforts and authored the Education Reform Implementation Plan, First Annual Implementation Report and the Goals 2000 Five Year Master Plan. Mr. Nadeau said that as the Department's CITO, one of his roles is to help shape the changes that information technology will bring to public education in Massachusetts. "Public education has remained basically the same for over 100 years," he said. "Now the information age is creating profound change."

Mr. Nadeau stated that the Education Reform Act of 1993 provided a regulatory framework for change with the goal of improving student performance. Information technology can help reach that goal by improving the institutional infrastructure, enhancing educators' professionalism, and increasing administrative efficiency and accountability. Efficiency can clearly be improved through enhanced information management systems and Mr. Nadeau said this will help create an environment that is data rather than anecdote driven. For example, he pointed out that with an enhanced data system, if the Department wanted to find out how a specific segment of the stu-

dent population was performing in certain subject areas, that will be possible.

While other improvements such as providing basic functions such as e-mail to educators will occur, Mr. Nadeau said that it is important to keep an eye on the bottom line as technical upgrades are implemented. "Schools will soon be moving from soliciting surplus equipment to being serious information technology planners," he said. "This is creating a whole new market and before the market gets out of hand we need to control costs."

Mr. Nadeau said that he and his department have spent a considerable amount of time working on procurement reform. The Department recently created a vendor pool for information technology goods and services in the education sector. In establishing the pool, the Department set out conditions which require vendors to disclose their cost of delivery and cap their profits at 25%. Typically, vendor profits can range from 100 to 300%. "If an agency can create a new market, it is unreasonable to pay a markup over 100%," he said. The CITO said he has found vendors willing to accept a 25% profit margin. "Paying top dollar does not provide a quality guarantee – no matter what you pay, it's still a crap shoot," he said. ♦

On-Line Task Force Formed, Issues RFI

In March, Chief Information Officer T. Louis Gutierrez established the On-Line Government Task Force to chart the immediate future course of on-line government in the Commonwealth of Massachusetts. The Task Force consists of representatives from a number of different agencies, departments and offices of the Commonwealth. The Task Force is investigating solutions that improve efficiency and service quality using internal and Internet-based electronic communications that possess authentication (to achieve access control as well as non-repudiation), integrity, and confidentiality. The Task Force has been instructed to report to the CIO on:

- a) the Commonwealth's operational needs for on-line government functions;
- b) the legal and policy requirements for such functions, with particular emphasis on the need for authentication, integrity, confidentiality, and non-repudiability;
- c) currently available and near-term technologies performing such functions;
- d) central services that could promote the growth of on-line government;
- e) the state of current technical and legal efforts in the Commonwealth, other states, the federal government, and other countries;
- f) specific technical and legal information that could support agencies that are implementing or evaluating on-line government functions;
- g) suitable candidates for pilot projects for evaluating on-line government solutions.

The Commonwealth has made information technology (IT) development and electronic communications a priority, spending approximately \$350 million on IT annually. The Commonwealth seeks to make a large number of routine business transactions available over the Internet and internal networks, with the intent that they will be performed for less cost and conducted at a higher quality service level for citizens, regulated entities, vendors and others. The Commonwealth seeks to create methods for secure access to a number of business transactions via electronic media, including licensing, permitting, applications, filings, procurement and a host of other func-

tions. Internally, the Intranet is being looked at as a potential mechanism to alleviate the crush of paper associated with a large number of routine state government functions, including personnel, procurement drafting, and other collaborative data sharing, work flow or messaging applications.

To help fulfill these goals, the Task Force has issued a request for information (RFI). The Task Force is contemplating the release of one or more procurements by the Commonwealth for electronic commerce products and/or services and the RFI was intended to solicit information that could be useful in drafting subsequent RFRs. This RFI specifically seeks information on products and/or services that will enable the Commonwealth of Massachusetts to use the Internet and internal networks for secure messaging and transactions. For example, the Task Force is seeking responses from vendors which offer information about currently-available solutions to any or all of the following business needs:

- Internet access with authentication. Such an application would involve access via the Internet to Commonwealth data located behind the firewall.
- Internet-based data submission with non-persistent connection. Such an application would involve access via the Internet to a Commonwealth database behind the firewall for the purpose of submitting information.
- Internet-based data exchange with persistent connection. Such an application would involve access via the Internet to an on-line application located behind the firewall such that the user would be authenticated once, and the system would maintain the identity of the user in all portions of the application throughout the duration of the session.

Responses to the RFI were received by the Task Force in May and are being reviewed. Anyone interested in receiving more information on the RFI or joining the task force should contact Task Force Leader Dan Greenwood at dgreenwood@state.ma.us or 617.973.0071. ♦

DA's Seminar Focuses on Automatic Case Tracking

Continuing the process of creating an automated case tracking data base, the Massachusetts District Attorneys Association conducted a project seminar in May. The seminar was the culmination of almost a dozen meetings that were held between January and April regarding the data base development project. The project is a re-engineering effort that will look at the procedures within the district attorney offices, along with the existing case tracking system, in order to develop a comprehensive tracking system.

The purpose of the two day seminar was to:

- give participants an overview of the information technology departments for the criminal justice and human service agencies that interact with the district attorney offices;
- demonstrate applications that address specific requirements of the district attorney offices and use certain technical concepts;
- review the work that has been done to date; and
- review the next phase of the project and the role of functional groups in the remainder of the project.

Prior to the seminar, the district attorney offices were divided into functional areas and representatives were sought from each group and pre-seminar meetings were held. Information Technology staff acted as facilitators at each of the meetings. In addition, a number of subcommittees were formed to provide input on the design of the data base: these include a District Attorney Advisory Subcommittee (made up of ten subgroups ranging from District Court ADAs to support staff to CPAC investigators), a Technical Facilitators Subgroup and a Financial Advisory Committee.

During the seminar's first day, representatives from outside agencies that deal with the district attorney offices were invited to discuss their information technology goals and explore how the different groups can improve interaction. The speakers represented a wide array of agencies ranging from human services to law enforcement and corrections. On the second day, members of the subgroups met to review a consolidation chart that had been developed during the pre-seminar meetings. Functional diagrams were produced from the various subgroups and these were consolidated into a chart that encompasses the whole system. At the seminar the chart was reviewed for completeness and accuracy, as were the data elements and their sources.

"The seminar was designed to be informational. We wanted our people to start focusing on where information was coming from."

Peggy Sullivan, from the Massachusetts District Attorneys Association, said the seminar was very useful in moving the data base development project forward. "The seminar was designed to be informational. We wanted our people to start focusing on where information was coming from," she said. Ms. Sullivan said the district attorneys are looking to put themselves in a position to share information with outside agencies and the seminar "helped to get our people thinking the same way."

With the seminar successfully completed, a new round of meetings will be held to begin focusing on specific actions to be taken. ♦

Who's Doing What Regarding:

Y2K Program Management Office Established

Under the direction of CIO Louis Gutierrez, the Strategic Planning Group of the Information Technology Division (ITD), has established a Year 2000 (Y2K) Program Management Office (PMO). The Y2K PMO's mission to support agencies in this effort is three-fold: to support the CIO's need to understand, monitor, and report the status of Agency progress in meeting the Year 2000 challenge; to support Agency efforts in meeting the challenge; and to ensure the continuity of state services into the next millennium.

"We cannot afford to take the Y2K problem lightly since its impact could affect all state operations," notes Val Asbedian, Director of the Strategic Planning Group. "I am confident that by establishing the PMO, we now have in place the talent and resources with which to coordinate the various on-going activities and provide advice and counsel where it may be needed."

ITD has contracted with Science Applications International Corporation (SAIC) to provide project management and staffing support for the Y2K PMO. Led by Daylia Vaughan from SAIC, the PMO staff includes both state and contractor personnel.

The group is building on the activities begun by the Strategic Planning Group to ensure continuing awareness of Year 2000 issues, best practices, and lessons learned. Essential next steps are to determine the size of the Year 2000 challenge at the statewide level, to establish a mechanism for tracking and reporting status of meeting the challenge, and to provide coordination and services to support the efforts of the individual agencies.

Update on the State Auditor's Year 2000 Survey

During April 1997, the Office of the State Auditor (OSA) mailed surveys to 637 state agencies, including those within the Executive, Judicial and Legislative Branches, as well as constitutional offices and independent authorities. The survey is intended to provide a means to assess levels of awareness and plans for confronting the Y2K challenge and to identify where assistance may be required.

It is somewhat disquieting to note that, although surveys were to be returned by mid-May, fewer than 300 surveys had been received by the OSA. As a result of follow-up calls made to agencies, additional surveys have been received. Furthermore, on-site interviews have been conducted with selected agencies to ob-

tain a more in-depth understanding of levels of awareness and preparedness for date processing after the turn of the century.

Once a sufficient number of surveys have been received and analyses performed, the OSA plans to provide agencies and other interested parties with a summary report and conclusions. In addition, the OSA, in conjunction with ITD, is planning to conduct periodic surveys throughout the remainder of this century.

ITD's Strategic Planning Group Creates Y2K Library

The Information Technology Division's Strategic Planning Group (SPG) has assembled a library of material about the Year 2000. The library contains material in these Y2K categories: non-governmental articles about the Year 2000 topic in general; RFPs and compliance agreements; audit guidelines; warranties; questions; checklists; conferences; standards; contracts and legal issues; surveys; web sites; PCs; project planning; federal and state government articles; software vendor letters; and vendor company information. The library is constantly being updated. To use ITD's library, contact Y2K coordinator Marcia King at 617-973-0711 or at Marcia.King@state.ma.us. ♦

The Year 2000

IT Statewide Contracts & the Year 2000

In order to ensure that all products and services purchased on IT statewide contracts are Year 2000 compliant, OSD is requiring a Year 2000 amendment on all of these contracts at renewal time. Until that time OSD has requested that all vendors voluntarily offer an additional Year 2000 warranty on the following contracts:

- PC Network and Integrators Contract, 6/30/98 renewal.
- IT Consulting Contract, 6/30/98 renewal.
- Mid-Range Contract, 8/20/97 renewal.

All vendors that have executed a Year 2000 warranty acceptable to the Commonwealth are listed in OSD Update 98-3. This memo and its updates as they occur are available at: <http://www.magnet.state.ma.us/osd/memo/memotoc.htm>. OSD is also incorporating a Year 2000 warranty in all new statewide contracts after March 1997. The new PBX and Oracle contracts ITT01, ITT02 and ITM01 have these compliance provisions.

OSD recommends for new IT purchases of products and/or services that the above list is checked to determine if the Con-

tractor has signed an acceptable Year 2000 warranty. A copy of this signed statement is available from the vendor. If a vendor is not on the list, they should be asked to sign a Year 2000 warranty before committing to any new work. A sample warranty statement is included with the OSD Update.

Every IT project should be evaluated for the risk of loss due to Year 2000 Issues. If the risk is high for mission critical or date sensitive applications, then the project team may want to seek additional protections such as:

- Requiring additional tests to prove Year 2000 compliance before acceptance.
- A guarantee such as proof of insurance, penalties, or performance bonds.

Agencies needing help addressing these issues or with related questions can call OSD at 617-727-7500.

ITD Y2K Awareness Days

The next Y2K Awareness Day will take place on October 9, 1997 on the 21st floor at One Ashburton Place in Boston. At this event, copies of an updated version of ITD's booklet, Year 2000 - Meeting the Challenge, first published in April 1997, will be available. The October event will feature: SAIC with an update on the Program Management Office;

Cambridge Resources on popular misconceptions of the Y2K process; NYNEX on PBXs; Digital on assessment through implementation; and EDS on Y2K testing.

The previous Y2K Awareness Day occurred on June 12, 1997 and focused on desktop software vendors Microsoft and Oracle and telecom vendors NYNEX and Lucent. ITD kicked the event off by introducing their new contractor SAIC/Synetics who spoke on their role of assisting in statewide coordination of Y2K remediation (see initial Y2K item).

Farhed Khouzani, Microsoft system engineer, described which of their products will be Y2K compliant when and highlighted their Web site (see below) for such information about all of Microsoft's products. Jim Thorpe of Oracle's Government Group, Pete Pacchiana, staff director of NYNEX's Millenium 2000 program office, and Edward Dill, Lucent's program manager for Y2K, described their organizations' work on preparing for the Year 2000.

Note: See Resources (near the end of this Bulletin) for Year 2000 Web Sites ♦

County Government Update

This is part of a continuing series of articles on the technical needs posed by the inclusion of county government functions into state agencies.

FRANKLIN COUNTY SHERIFF'S DEPARTMENT

On July 1, 1997 the Franklin County Sheriff's Department became part of the Executive Office of Public Safety. This necessitated the purchase of new computer equipment to comply with MMARS and PMIS. With this consolidation and purchase of new equipment, Franklin County Sheriff's Dept. Director of Personnel Affairs Jeff Wallace said the Department's information technology capabilities went "from the stone age to the 21st century."

With new equipment purchased through the Commonwealth's "Big Buy", the Department's capabilities improved from surplus computers donated from local elementary schools to 25 new workstations with the latest software that will be networked together and will provide direct access to the Commonwealth's systems. Mr. Wallace said that their work stations have all been installed and their network will be completed soon. This will satisfy their goals of having the entire office fully integrated and of providing access to departmental employees. An important part of that access will be the links to MMARS and PMIS because the former county employees now work for the Commonwealth.

But Mr. Wallace sees more than an electronic link to the Commonwealth's computer system. He also sees a method for increasing efficiency and productivity in the Franklin County Sheriff's Department. In addition to providing Internet and internal e-mail capabilities, a full range of law enforcement information will be available. For example, the depart-

ment now has the ability to cross reference criminal records and obtain information on tracking deadbeat spouses.

To procure the equipment, Mr. Wallace said the assistance of Bob McInnis from the Information Technology Division and David Kennedy, Budget Director for the Executive Office of Public Safety, was essential in moving things forward. He noted that Mr. Kennedy convinced the County Government Finance Review Board to provide partial funding for the project and Mr. McInnis pulled all of the outside vendors together to make the system work.

Now that the system is being installed, training sessions will occur through the use of a mobile training van that will come to the Franklin County Sheriff's offices in Greenfield. Computer and network training will be held for the Sheriff's management, professional and clerical staff. Eventually, the Department plans to be fully integrated -- including the jail facilities -- once various security issues have been worked out. For now, it is anticipated that the network will be up and running in early September.

MIDDLESEX, HAMPDEN & WORCESTER COUNTIES

Middlesex, Hampden and Worcester Counties were also absorbed by the state on July 1, 1997.

Unlike Franklin County, Middlesex County already had in place an infrastructure to support MMARS and PMIS. So their plan involved connecting their network to the state's wide area network for e-mail and Internet access. The execution of this plan should be completed in September.

Hampden and Worcester Counties will begin their technology conversions in the fall. ♦

IT BOND 2 UPDATE:

Better Government Projects

This is part of a continuing series of stories on the IT Bond II package. The Public Safety projects were described in the Summer '96 issue, and the Education projects were described in the Fall '96 issue (where all IT II projects were listed). Here are descriptions of some Better Government projects, more of which will be described in future issues.

MAGNet

This ITD project will create a Commonwealth-wide information directory, cataloguing business processes and data elements. It will create the framework within which common data elements can be standardized, to facilitate exchange and/or reduce redundancy. It will identify areas where cooperative information collection and maintenance can benefit the Commonwealth. The project will focus on common business practices and information, and will develop common message formats and protocols for real-time information exchange among statewide information users. This project would determine the feasibility of establishing a statewide information hub through which information exchange can be brokered.

BEACON

The BEACON project is necessary to improve and automate key business functions. The current system remains at its core a 25 year old recipient payment system. The BEACON project will improve the accuracy and efficiency of the Department of Transitional Assistance's operations through reduced error rates, enhanced productivity, expanded availability of management information, enhanced interfaces with other state and federal agencies, and improved data integrity.

Electronic Commerce

The initiative of the Office of the State Comptroller will create the means to exchange information and payments with business, departments, and persons electronically instead of on paper. The paperwork – and all the labor to keep track of it – will be eliminated through computer automation. Paper checks will be replaced with electronic funds transfer (EFT) and electronic benefits transfer (EBT); purchase orders and contracts will be executed with electronic data interchange (EDI); remittance information will change from paper check

stubs to electronically invoked audio response units (ARU); and contracts and other information will be communicated and managed between the Commonwealth and private sector businesses via the Internet and the World Wide Web. Implementing electronic commerce statewide will improve the quality of service and decrease administrative costs while providing a visible demonstration of business process reengineering.

Automated Audit Preparation & Office Automation

The Office of the State Auditor's project will enhance the Commonwealth's efforts to make government more efficient and accountable. Reengineering and fully automating the process of auditing are aimed at increased agency compliance with statutory mandates and implementation of sound business practices and effective systems of internal control. The conversion of the Auditor's Office to networked PCs, notebook computers, and office automation software that are compliant with the Commonwealth's standards will greatly improve productivity. The new capabilities for use of templates for reports and workpapers, improved file transfer and document sharing, on-line review and editing, computer access to auditee data, computer analysis of data, and the on-line availability of reference materials, will all result in more comprehensive and effective audits.

Integrated Licensing and Document Management Systems

This project will utilize information technology to streamline and consolidate the tracking, licensing, and document management systems for the Office of Consumer Affairs and Business Regulation. Businesses and consumers will then be able to get the services and information they need 24 hours a day, 7 days a week by picking up their telephones or logging into the Internet. This effort will reduce license processing time by 30% and eliminate current duplicative document management tasks. Additionally, it will provide for more efficient complaint tracking, investigative and enforcement activities by providing automated access to other state databases, and will form a blueprint for licensing systems throughout the state. ♦

DOR's Tax Systems Win Computerworld Smithsonian Award

Massachusetts Department of Revenue's revolutionary tax processing systems have won the 1997 Computerworld Smithsonian Award. Each year, the Computerworld Smithsonian Awards honor those who have used information technology to improve society. DOR is one of 12 organizations that received awards from a field of 321 entries. DOR won the award in the category of Government and Non-Profit Organizations for their Telefile and Imaging systems. The materials DOR submitted for the award will become part of the Smithsonian's permanent collection on the Information Age, one of the most important of its kind in the world. The collection serves a critical historical purpose by helping the Smithsonian Institution record the information technology revolution and the impact it has on our lives.

"This crowning achievement is the result of a tremendous amount of hard work by many at the Massachusetts Department of Revenue. DOR's vision, put together with expertise from the world of information technology, produced a winning combination. The spirit of teamwork and dogged determination drove us to construct the very best tax processing systems in the world," said Revenue Commissioner Mitchell Adams. The department's push for more efficient tax filing systems is reflective of the efforts of the administrations of Governor William Weld and Governor Paul Cellucci to provide better government at the lowest possible cost to the taxpayer.

"The combination of advanced client/server technology and comprehensive data capture, storage and retrieval capabilities has made Massachusetts' Department of Revenue tax processing system unique among state tax systems. The award is a tribute to the dedication and commitment of many DOR employees of whom I am very proud," said Adams.

See the IT Bulletin's Winter 1997 issue (Vol. 3 No. 1) for a description of DOR's Telefile and Imaging systems. ♦

MGIC Expands Range of Activities & Membership

The Massachusetts Geographic Information Council (MGIC) resumed activities in September, after a two-month summer hiatus, by holding a unique four-hour session. For an hour before and an hour after the regular meeting, GIS vendors were available to discuss their services and products with MGIC members. During the regular two-hour user meeting, several speakers presented a variety of applications using GIS in transportation planning. MGIC will continue to expand its range of activities and membership in FY98 by holding user meetings at various locations around the state and by co-sponsoring meetings and conferences with other organizations.

During the past year, the MGIC mailing list has been expanded to nearly 2,000 names including the mailing lists of regional planning organizations and professional organizations such as the Massachusetts Association of Assessing Officials (MAAO). This past year's meetings have been held in combined meeting rooms located in the Transportation Building at Park Plaza to better accommodate the larger group.

After a couple of years with very little activity, MGIC resumed a regular schedule of end-user meetings in January 1997. Topics presented from the January through the June meetings included: summaries of the current use of GIS in government and the private sector; demographics and GIS; successful GIS implementation in municipal government; Municipal assessing and GIS; and GIS and the utilities.

MGIC meetings are usually held on the first Tuesday of each month and are open to all interested parties whether currently using GIS or contemplating its use. Meeting announcements are mailed about two weeks before each meeting and are also posted at: <http://www.hdm.com/neurisa2.htm>. For more information on MGIC and the user meetings, contact Carl Nylen of MassGIS at (617) 727-5227 x323 or Carl.Nylen@state.ma.us. To get on the MGIC mailing list, contact Elaine Socha of ITD at (617) 973-0865 or Elaine.Socha@state.ma.us. ♦

RESOURCES

Year 2000 Web Sites (see <http://www.state.ma.us/y2k/> for more listings)

See these web sites for information about major state vendors' products and Y2K compliance.

VENDOR	WEB SITE
Data General	www.dg.com/products/html/year_2000_compliance.html
Digital	www.digital.com/year2000
IBM	www.ibm.com/ibm/year2000
Microsoft	www.microsoft.com/cio/articles/year2000faq.htm
Oracle	www.oracle.com/support/html/year2000.html
Unisys	www.unisys.com/marketplace/year2000
Wang	www.wang.com/corp/pressrel/p9705280.htm

SPG Provides Consulting Services to State Agencies

The Strategic Planning Group (SPG) of the Information Technology Division has been assisting various state agencies as they deal with information technology issues. SPG can assist in various areas ranging from the development of a strategic vision for the use of information technology to advice regarding an upcoming technology procurement.

SPG recently assisted the Children's Trust Fund (CTF) identifying and coordinating implementation activities with various ITD units to establish a connection to the state's Wide Area Network. CTF now has access to the Information Warehouse and Document Direct and is thereby able to satisfy its immediate business need for automated financial reporting. SPG also helped to transition the Worker's Compensation application from PERAC to HRD subsequent to a legislatively-mandated reorganization. Staff is also assisting the Division of Health Care Finance and Policy in its efforts to better integrate its IT and business planning functions.

Areas in which SPG can be of assistance include:

- formulating strategic IT plans;
- planning major technology procurements;
- assessing projected equipment purchases in light of the Commonwealth standards and strategic direction;
- determining how IT can be applied in the organization to re-engineer business processes and gain efficiencies;
- researching new technologies and identifying current state efforts in those areas;
- identifying available resources which can help in addressing various IT needs and coordinating those resources where appropriate.

State entities interested in requesting consulting services from SPG should contact Val Asbedian, Director of Strategic Planning at 973-0762.

Oracle Access to Commonwealth's Information Warehouse

ITD is offering a new service that will allow Oracle-based applications to access the Commonwealth's MMARS Information Warehouse directly. The new service is made possible by Oracle's "Transparency Gateway," a software product that reads Microsoft SQL Server data from within an Oracle application and presents it as though it is integrated with the Oracle application. The ITD Data Center at the Massachusetts Information Technology Center (MITC) in Chelsea has installed a server for this gateway in response to a requirement of the Department of Social Service's FamilyNet project. The new service will not only meet the needs of DSS, but also may be utilized by other Oracle applications throughout the Commonwealth. For more information, contact Domenic Musto at 617-660-4466 or at Dom.Musto@state.ma.us. ♦

INFORMATION TECHNOLOGY DIVISION

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The *Information Technology Bulletin* is a quarterly newsletter of ITD's Strategic Planning Group. One of SPG's tasks is to act as a clearinghouse for IT information. This publication furthers that goal. Please send correspondence to Managing Editor, Elaine Socha, the Information Technology Bulletin, Room 801, One Ashburton Place, Boston, MA 02108.

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This publication is also available on the Web at
<http://www.magnet.state.ma.us/itd/bulletin/>

Next publication: Fall 1997

Photos by Jerry Shereda

A MESSAGE FROM THE CIO

The dog days of summer -- what better time for an annual "what's hot" list (I'll save the "what's not" list for midwinter).

What's Hot:

Increasingly, it looks as though Microsoft is staking its reputation for the business desktop on Windows NT Workstation. If you're bringing in desktop automation for the first time, or making an upgrade from DOS or Windows 3.1/3.11, you may want to go straight to NT. If you have Windows 95, you may want to plan the move to NT Workstation Version 5.0 next year, instead of Windows 98.

DVD disk drives have started appearing on consumer PCs. The DVD disk, which looks and operates like a CD-ROM, but holds anywhere from 4.7 to 17 billion bytes of information (i.e., you can fit miniature data warehouses, lots of training videos, and who knows what else on one of these things). Not time to rush out and buy these yet, but a development that should give people pause when they are thinking about next year's PC configurations and business applications.

Speaking of PC configurations, a very helpful (but highly technical) look at the near-term future of PCs can be found in the PC98 personal computer design specifications being drafted by Microsoft and Intel and published on the web at <http://developer.intel.com/design/PC98/>. This is useful reading for any systems director or LAN manager.

Finally, electronic commerce technologies (enabling secure transactions on the network, which in turn enables on-line government) are rapidly proliferating and maturing on the market. SSL, S/MIME, SHTTP, X.509v.3, SET, digital signatures, certification authorities, etc., are amongst the alphabet soup and technical terrain that need to be crossed in pursuit of simpler, more efficient, and more secure connectedness to our constituents and providers. Dan Greenwood, ITD's Deputy General Counsel, should be contacted at (617) 973-0071 if your agency is planning on making use of digital signature technologies. It is especially important that you provide advance information on such initiatives, because fragmented use of such technologies, which inconveniences all of our constituents and providers, is the undesirable alternative.

Hope your dog days were great!

Sincerely,

T. Louis Gutierrez

INFORMATION TECHNOLOGY

BULLETIN

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Executive Office For Administration & Finance
Information Technology Division

GOVERNMENT DOCUMENTS
COLLECTION

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Fall 1997

Comptroller says interoperability and data exchange are keys to government success



At the Office of the State Comptroller (OSC), the reliance on information technology has become a way of life. According to Comptroller William Kilmartin, OSC made a decision ten

years ago to focus on the use of information technology. "We now live, breathe and die by it," he joked.

The Comptroller's Office had a number of successes with IT applications stemming from IT Bond I such as the Billing and Accounts Receivable Subsystem (BARS), the Payroll Cost Reporting System (PCRS), the Project Accounting and Reporting System (PARS), a new debt management system, and the Information Warehouse. These projects

have redefined the way the Commonwealth does business and generated tens of millions of dollars in annual and ongoing savings or revenue increases.

With the endorsement of the Governor and the Legislature, and funding set forth in IT Bond II, Mr. Kilmartin and his staff are building upon these prior successes and focusing on a new agenda broadly labeled "electronic commerce". One project from the agenda is Electronic Benefits Transfer (EBT). As reported in earlier issues (Spring 95 and Winter 96), this program provides debit cards to recipients of Food Stamps, Transitional Assistance for Needy Families, and Emergency Aid for Elderly, Disabled and Children. EBT has not only saved the Commonwealth money but has won the support of benefit recipients, food merchants and the banking industry as well.

Other aspects of the electronic commerce agenda include a project to remediate MMARS for the Year 2000, electronic data interchange (EDI) and electronic funds transfer (EFT). The Comptroller said that inherent efficiencies and cost savings make these and other uses of information technology a given. As an example, he pointed to the disbursement of checks and a joint project with the Office of the State Treasurer. In 1993, there were approximately 16 million disbursement events -- 14 million of those were done by paper checks and 2 million by EFT. In 1997, a smaller proportion are done by paper and the rest by EBT or EFT. The cost saving from that change is

tremendous -- the cost of a paper check disbursement can range from forty-three cents to \$1.50 while the same electronic funds transfer has an average cost of five or six cents.

Mr. Kilmartin also sees cost savings and increased efficiency in providing additional automated support to procurement reform. Consistent with this emphasis, OSC will be launching several projects under the name of MMARS WEB that will involve the interactive use of web browsers and other technologies conveying information and supporting secure transactions between business partners over the Internet. (For more information, see the Division of Banks story on page 2.)

The Comptroller's Office has organized to focus on critical business processes, for example, managing revenue or managing payments. And a dedicated group of technology expertise under the direction of Deputy Comptroller Susan Kanak has been created to provide technology support and assure project interoperability across such business lines. OSC is committed to support information technology projects in an environment of interdepartmental cooperation, ranging from assisting departments with interfaces to MMARS to full participation in the new statewide Human Resource and Compensation Management System (HR/CMS).

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State Job Postings Now On-Line

James J. Hartnett, Jr., State Personnel Administrator, said that the new Commonwealth Employment Opportunities (CEO) system had its genesis last November when A&F Secretary Charles D. Baker came up with the idea of creating an electronic jobs posting—something similar to an effort that had just been started by the federal government. When Chief Information Officer Louis Gutierrez was approached about the initiative, his response was, “I will do whatever is necessary to make it happen.” This kind of cooperation and teamwork between the Human Resources Division (HRD) and the Information Technology Division (ITD) was the reason why this initiative became a reality in Massachusetts. Staff from HRD and ITD immediately began to work together to establish the system and by June a pilot was in place. One of the challenges facing the system was that not every agency was on the state’s intranet which meant that they did not have access to input their data. However, that problem should soon be solved because of requirements being implemented for HR/CMS.

Even at this early stage, the system has been a great success. “There never was a central job posting for the Commonwealth before CEO,” Mr. Hartnett said. “Now everyone has equal access to the same information.” And how has the response been from the public? “Agencies are telling us that they are saving advertising costs and receiving appropriate resumes - and lots of them.”

The CEO system offers a comprehensive listing over the Internet of current job openings in Massachusetts state government. Currently, there are approximately 250 openings that are listed on the site, which can be found at <http://www.state.ma.us/hrd/>. According to Fran Fahey, who helped implement the system at HRD, most state agencies are now included and there are others that are still in the process of getting their information onto the site which began in August.

Linda Lynn-Weaver, who now manages CEO for HRD, stated, “Over the years, the Department of Personnel Administration — now the Human Resources Division — had people coming into the office constantly, wanting to know about positions available in state government. Starting in 1993, HRD began maintaining job postings manually, but only for management positions.” Ms. Lynn-Weaver credits a great effort by human resources staff at executive offices and agencies, as well as at HRD, with developing the manual job posting system into today’s state-of-the-art Web-based version. “This effort has produced a system with a full range of positions posted to a world wide applicant pool.” ♦

Division of Banks pilot puts a premium on security

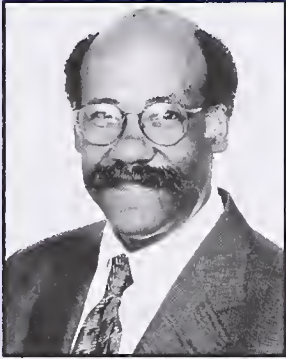
Every week since 1989, the Division of Banks has been compiling information on the interest rates charged by financial institutions and mortgage companies throughout the state. Through a survey that generates an average of 150 responses, the Division gathers the information for inclusion in a Weekly Shopper's Credit Guide. The Guide is then sent to newspapers and other publications to provide consumers with updated interest rate information.

To qualify for inclusion in the weekly guide, a participant must be a licensed mortgage lender or a state or federally chartered financial institution. Every institution which chooses to participate in this voluntary program fills out a form containing pertinent information on home and auto loan interest rates. Currently, the data is mailed or faxed to the Division and then manually entered by Division staff. To improve the efficiency of the operation, the Division of Banks, the Office of Consumer Affairs and the Information Technology Division, in cooperation with CyberTrust, a division of GTE, have developed an Internet based pilot application which automates the Weekly Shopper's Credit Guide.

What makes this project unique is that for the first time the Commonwealth will have the ability to update an on-line data base over the Internet in a secure manner using digital certificates which provide encryption and authentication. Encryption protects the transactions from being read or altered if they are intercepted on the Internet. Authentication ensures that both parties are identified to one another before access to the data base is provided. “The Shopper's Credit Guide requires that we are able to validate the identity of who is sending us the information as well as the integrity of the information itself, said Consumer Affairs SIO John Shontell. “For example, before we post interest rates for BankBoston, we need to be sure that BankBoston did, in fact, send us those rates.”

The first pilot bank posted an interest rate electronically on October 7. Mr. Shontell said the long term objective of the pilot project is to provide more on-line services to consumers. However, many of those services will require additional levels of security and authentication similar to those that the pilot will provide. “This is just the beginning of our efforts to make government more user friendly,” he said. Those who are interested in seeing the information provided by the Weekly Shopper's Credit Guide will be able to find it at <http://www.state.ma.us/dob/> when the project becomes fully operational. ♦

Stan Burrows is New Environmental SIO



The slogan on the Executive Office of Environmental Affairs (EOEA) goal sheet says "People Making it Happen". One person who is at EOEA to make it easier for people to make things happen is the new Secretariat Information Officer Stanley W. Burrows. Mr. Burrows came to the Commonwealth from the Arbitron Company in New York where he served as Chief Information

Officer. Prior to that he worked for Lotus Development and Digital Equipment, and has previous experience in state government when he served as Assistant Secretary for Systems for the Executive Office of Human Services. Mr. Burrows started as EOEA's SIO in August and he did not waste any time in putting together his vision for the Executive Office of Environmental Affairs and its agencies.

Mr. Burrows' appointment in August coincided with the release of a consultant's report that examined the use of information technology at EOEA. Mr. Burrows said EOEA knew that to accomplish what was needed for the future, it was necessary to a) get some advice from consultants and b) recruit a CIO. The study by CompuCom found that EOEA had no overall plan or direction for its IT systems. Instead, there was a loose confederation of "cooperative" information system groups with little standardization, documentation or consistency. "For example, there were some agencies with a strong commitment to information technology and there were some using old desktops that were not Windows capable," said Mr. Burrows.

The consultants made a number of recommendations that Mr. Burrows is now in the process of reviewing. Among those suggestions were the following:

- Outsource all WAN operations to ITD
- Involve the SIO in all policy decisions
- Reorganize IS reporting to the SIO
- Document and modernize the data center
- Modernize the network
- Centralize the help desk function
- Migrate the network through attrition to NT

As part of his review, Mr. Burrows said he is trying to utilize the report to maximize its benefits given the limited resources available. The report has been made available for review and discussion and certain recommendations will be implemented. One of the challenges the SIO faces in reaching some of the goals outlined in the report is in modernizing the systems in certain EOEA agencies and bringing the entire secretariat up to a proper standard. "It is unacceptable to have old technology that can not accommodate user interface throughout the secretariat," he said.

*"I want
our
agencies
to act
like a
team."*

As SIO, Mr. Burrows says he will take the lead in bringing the necessary changes about. A secretariat wide informations system strategic plan is now in the draft stages which should start the process. "I want our agencies to act like a team," said Mr. Burrows. "We need to develop a single set of high priority initiatives for the entire secretariat-- in that way we can accomplish more." The new SIO added that a single strategy can help eliminate waste and overlap while adding structure and discipline to application development.

Mr. Burrows said in his role as SIO he must seek ways to maximize the benefits of the limited resources that are available while at the same time creating a fair prioritization for information systems within the secretariat. To that end he is seeking to enlist the assistance of IS managers within EOEA agencies to help draft parts of the strategic plan that are close to them. When the plan is completed Mr. Burrows said he will present it to all of the secretariat IS managers. "Once it has been implemented it will be difficult to do things that are not consistent with the plan," he said. ♦

Secretary Baker on the Year 2000



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To: All Secretaries and Department Heads
From: Charles D. Baker, Secretary, EOAF
Subject: Year 2000 Compliance
Date: September 29, 1997

We face a unique challenge in the history of Commonwealth operations – a turn of the century, coupled with heavy reliance on automated operational systems.

Therefore, effective immediately, it is ordered that:

1. Uninterrupted turn-of-century service delivery is each agency's top operational planning priority.
2. The management of each agency of the Commonwealth is responsible for assessing its Year 2000 preparedness and bringing its systems into compliance, or devising replacement and contingency plans for insuring smooth operations through the turn of the century, and having such assessments and plans committed to writing.
3. All purchases by Commonwealth agencies of new software, systems, enhancements or equipment shall be Year 2000 compliant.
4. New acquisitions which do not address *specifically identified* Year 2000 deficiencies in older systems should not be put forth as "Year 2000" initiatives.

Agencies are directed to review planned and ongoing technology initiatives in light of this directive and suspend all such initiatives which detract from Year 2000 preparedness efforts, other than those specifically mandated by statewide directives or required by law.

The Information Technology Division, through its Year 2000 Project Management Office, will continue to offer assistance to agencies in their Year 2000 compliance efforts. The Operational Services Division is available to assist with technology procurement matters related to Year 2000 compliance. Please feel free to contact these agencies.



Who's Doing What Regarding:

The Year 2000

Year 2000 Events

The next Massachusetts Government Year 2000 User Group meeting will take place on January 13, 1998 on the 21st floor at One Ashburton Place in Boston. This group has grown in recent months to the extent of needing a larger space for the monthly meetings. See the Resources option at <http://www.magnet.state.ma.us/y2k/> for the list of future meeting dates.

DET and DOR Support Y2K Project Launch Workshop

Dick Burke of DET and Catherine Bayliss of DOR shared their real-world Y2K project experiences at ITD's September Y2K Project Launch Workshop. Their insights and experiences in project organization, goals, initial activities, and awareness gave eight agencies a great leg-up toward establishing and managing Y2K projects more effectively.

Year 2000 Reference Book, 2nd Edition

At the October 9, 1997 Year 2000 Day, ITD introduced the second edition of Year 2000 Compliance: Meeting the Challenge. The second edition contains much more and detailed information about Y2K project planning, standards and contract guidance, blanket vendors who have signed the Year 2000 warranty, a number of resources providing useful Y2K information for all levels of agency staff, and a list of over 60 Web sites.

The second edition of Year 2000 Compliance: Meeting the Challenge is accessible at <http://www.magnet.state.ma.us/y2k/>. Copies are also available at Massachusetts Government Year 2000 User Group meetings or from Marcia King at 617-973-0711 or at Marcia.King@state.ma.us.

Y2K PMO Interviews Agencies, Highlights Some Issues

ITD's Year 2000 Program Management Office (PMO) team spent most of August and September interviewing agencies to collect information on the Commonwealth's progress in meeting the Y2K challenge. The following are issues that need to be addressed:

DOCUMENTATION. The PMO is encouraging agencies to develop the Y2K Project documentation that will aid communications with senior management and end-users as well as within the project team, provide support for spending plans, and assist project management and control. The PMO recommends that agencies keep the formats simple so that the documents can be easily maintained. Smaller agencies can probably keep all this information in a small binder.

PC COMPLIANCE. Many agencies with older systems are uncertain as to an approach for bringing them into compliance. The PMO is working with the agencies on a standard approach.

PC UPGRADE AS BASIS FOR "COMPLIANCE". Many agencies are basing their compliance status on the fact that they have brand new PCs and MS Office 95 or 97. While this definitely reduces their overall risk, it does not relieve them of the need to inventory and assess their PC applications, phone systems, LANs, and other "non-IT" devices. In particular, Access users must be made aware that an upgrade alone does not ensure compliance. An unaware Access user can develop non-compliant Access applications on brand new PCs with MS Office 95 or 97.

RELIANCE ON BRAND NEW REPLACEMENT SYSTEMS. Some agencies are planning to replace non-compliant mission-critical systems. Since most new developments require long lead times, this strategy adds additional schedule risk to the Y2K project. If the new system is going to fulfill a mission critical function, it should be in production by January 1, 1999, which is just 12 months away.

COSTS/FUNDING. Agencies have submitted to the Budget Bureau anticipated Y2K spending on their FY1998-FY1999 spending plan forms. Any changes to these estimates should be submitted promptly in writing to both FAD and ITD as they become known.

VENDOR MANAGEMENT. Many agencies would like ITD support for determining whether specific hardware and software products are compliant. In October, the Y2K PMO initiated a formal Y2K Vendor Management Program for various common hardware and software products being used by multiple Com-

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monwealth agencies. The program will provide a single point of contact to the vendors to obtain an official statement of compliance for each product. The PMO will make this information available to the agencies through the Y2K web page. Agencies who have already launched their own Vendor Management Program are invited to share their information with the PMO to avoid duplication of effort.

Update on Office of the State Auditor's Year 2000 Survey

The State Auditor's Report on the readiness of state agencies for Year 2000 processing has recently been released. The report, based on a survey of all state agencies initiated last Spring, showed mixed results. While certain agencies have been working diligently to deal with the problem, the survey indicated that many had yet to begin their efforts or were in the very early assessment stages. Auditor A. Joseph DeNucci commended the state's Information Technology Division for its efforts to increase awareness of the Y2K problem through seminars and workshops, serve as a clearing agency for information, and encourage agencies to address the problem. At the same time, the Auditor warned that much more needed to be done at particular agencies with high-risk, mission critical systems. A copy of the report will be made accessible on the Office of the State Auditor's web page at <http://www.magnet.state.ma.us/sao/edp1.htm>, or interested parties may obtain a copy by writing to the Office of the State Auditor at One Ashburton Place, Room 1819, Boston, Massachusetts 02108, Attention: Communication Division.

MITC and Year 2000 Testing

According to a number of Year 2000 experts, testing is probably the most important phase of an organization's Year 2000 project and will account for between 35 and 60% of the project's schedule and resources (staff and equipment). In fact, here in Massachusetts, both the Department of Employment and Training and the Department of Revenue have borne this out with their estimates of 50% of their project's time and dollars estimated for Year 2000 testing.

Testing should be a process that starts early in a Year 2000 project and continues throughout the life of the project. Year 2000 test-

ing is far more complex than typical application development testing since there are so many layers of testing required. The Year 2000 problem affects everything: operating systems, compilers, form generators, report writers, data servers, and vendor-supplied components, such as libraries and toolkits. Testing must include establishment of software baselines, testing that converted software still performs normally using current dates, and testing that converted software performs normally using future 21st century dates. In general, changing a production system's current date for testing is impossible; therefore, for many systems, testing will have to be done in a separate environment. This requires additional space, additional hardware, firmware, and software, and additional time. If any of the hardware, operating systems or compilers, for example, need upgrading for Year 2000, then testing also needs to be very carefully coordinated among all the components. Furthermore, if remediation involves date expansion, more storage space may be required and historical data may also need to be converted. And, all this must be done while continuing to run and maintain the existing system in the production environment.

The ITD Data Center at the Massachusetts Information Technology Center (MITC) in Chelsea is gearing up for Year 2000 testing. The staff in Chelsea is preparing to help agencies with their testing. However, in order for them to best serve their customers, they need as much advance notice as possible and as much information from the agencies as is available. The information that follows will help agencies determine if they will need help from ITD's Data Center and what agencies can do to ensure a successful experience.

WHO CAN BENEFIT FROM THE MITC RESOURCES?

If an agency has mainframe applications and is an existing ITD mainframe customer, then they will need to take advantage of the MITC resources.

WHY WOULD AN AGENCY NEED THE RESOURCES OF MITC?

To test a mainframe application, agencies will need a separate Year 2000 test environment that mimics the production environment. MITC is in the process now of setting one up. MITC has also upgraded current versions of CICS and COBOL, and other

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The Year 2000

C O N T I N U E D

software, to Year 2000 compliant versions. Agencies will need to get the necessary information to convert their own systems.

WHAT CAN AN AGENCY DO NOW TO PREPARE FOR Y2K TESTING AT MITC?

Probably the most important thing an agency can do now to prepare for Y2K testing is to: Find the source code. Without the latest version of source code, agencies will be unable to create Y2K-compliant executable software. If an agency is unable to ensure that their source code matches the current executable code, they will need additional time to recreate their program(s). An agency using back level releases of compilers, operating systems, or other software, especially releases which are no longer supported by MITC, will need to upgrade to a supported release. This will add to the time needed to become Y2K compliant, but it can be done now.

WHEN SHOULD AN AGENCY NOTIFY MITC OF THEIR NEEDS FOR Y2K TESTING?

Agencies will be getting a letter shortly from MITC requesting current and future disk space requirements for their systems, including Y2K initiatives, for the period June 1998 through June 1999. Agencies should return these forms as soon as possible. If an acquisition for additional disk space is needed, a few months lead time is necessary. Any other requests for Y2K testing should be forwarded to MITC as close to February 28, 1998 as possible.

WHAT INFORMATION SHOULD THE AGENCY PROVIDE TO MITC WITH THEIR REQUEST FOR SERVICES?

When an agency makes a request for Y2K testing help, they should include the answer to as many of the following questions as possible:

What application is being tested?

What is the system environment?

(e.g., database, VSAM, CICS, COMPLETE)

Is disk space needed? If so, how much?

Are tapes needed?

What languages are being used?

Are there any data security issues?

Are there any data storage issues?

What are the database and operating system requirements?

What is the schedule for testing?

Providing copies of documented Y2K project plans and/or test plans will also help MITC to better serve their customers.

ITD's Data Center at MITC is preparing for the Year 2000 testing. By April 1998, they expect to have a fully active Year 2000 test environment operational and ready for their customers. ♦

Comptroller Article

Continued from page 1.

Comptroller Kilmartin believes that one of the important aspects of these tasks is the need and ability to exchange information. "Everyone is now toiling in the vineyard of electronic commerce," said Mr. Kilmartin. "Interoperability and data exchange across agencies, programs and jurisdictions will become the driving forces as we move forward." Mr. Kilmartin cited the example of one state agency trying to collect money from an individual while another agency is dispersing funds to the same person. "For instance, the Department of Revenue may be trying to collect back taxes from someone that is scheduled to receive payment as a vendor. With interoperability and data exchange, Agency A would know what Agency B was doing and the back taxes could be deducted before the vendor payment was sent," he said. Mr. Kilmartin said all of these applications come back to the concept of interoperability and data exchange. "Those are the two concepts that are key to the improvement of government services," he said.

Mr. Kilmartin has been Comptroller for Massachusetts since 1989. He has a Bachelor of Arts from Cornell University and a Master of Public Administration from Suffolk University. He is currently serving as the President of the National Association of State Comptrollers (NASC) and Vice-Chair of the Board of Directors of the EBT Council. ♦

IT BOND II UPDATE:

MAGNET Campus Network Upgrade

The Massachusetts Access to Government Network (MAGNet) provides data communications connectivity throughout the Commonwealth. The Campus Network is a subset of MAGNet that today connects government offices at the State House with those at the McCormack and Saltonstall Buildings at very high speeds. The Campus Network Upgrade Project will expand the Campus Network to connect the government offices in the greater Boston area that require high-speed data communication.

The more than 80 new applications funded in IT Bond 2 will improve service delivery and increase operating efficiency for many Commonwealth Agencies. State-of-the-art information technologies and flexible workflow patterns will enable these improvements. The new applications all require much higher data communication speeds, increased connectivity to network services, flexibility to adapt network design to changing workflows, and service availability at the same level as telephone voice service. The Campus Network Upgrade is designed to meet these application requirements.

The Campus Network Upgrade begins with upgrades in the building wiring. Optical fiber is used for vertical runs from the building basements to wiring closets on each floor. Category 5 copper wire completes the horizontal run from the wiring closet to a data communication hub on the local area network (LAN) for the building floor. Patch panels in the wiring closets provide flexible connectivity and redundant paths to eliminate single points of failure. Battery back-up electrical power is provided, along with cooling and security controls, and on-line documentation is completed for rapid troubleshooting of problems. Buildings are then interconnected either with optical fiber or commercial network transport services, depending on the distance from the Network Technical Assistance Center (NTAC). The NTAC is located in a secure government building within the Campus Network. The NTAC also contains gateways to the Internet, the wide area network, the security firewall and other centralized data communication services.

Bay Networks, Inc. (<http://www.baynetworks.com>) was selected as the ITD Communication Services Bureau's technology partner to upgrade the campus network. Bay Networks will provide the required selection of equipment and services at the most competitive price to achieve the project requirements. Bay Networks is also providing extensive services for start-up and first year operation. Data communication switches manufactured by Bay Networks are installed on strategic floors in the wiring closets. The data transport protocol on the Campus Network backbone is converted from

Ethernet to Asynchronous Transfer Mode (ATM) to allow much higher communication speeds. The ATM protocol allows switching of data messages on the Campus Network to replace routing. The performance of client/server applications usually improves when switching replaces routing.

The standard today in the Commonwealth for desktop connectivity to LANs is 10 Mbps Ethernet. High-volume LAN servers connect to the campus network at 100 Mbps. The Campus Network is now operating at 155 Mbps. The speed is scalable to 622 Mbps when required by the volume of data communication traffic. The ATM protocol also operates over much longer distances than is possible with Ethernet. With the ATM protocol, the span of the Campus Network can be increased from the few kilometers around the State House to other buildings in the Boston area occupied by State Agencies.

The Project concludes with an upgrade of the network management environment. Network management includes installation of new and improved software to continuously monitor network service availability, provide utilization information for capacity planning, proactively troubleshoot problems with network objects, and improve operating efficiency. Network management staff are trained, new network management techniques are introduced, and relationships with key vendor partners are strengthened.

The Campus Network wiring infrastructure in the McCormack Building and the State House was upgraded in June 1997, and the prototype Agencies were converted to the ATM Campus Network backbone during September 1997. The remainder of the Agency LANs in the McCormack Building and State House are being converted to the ATM Campus Network backbone during Q2 FY 1998. The network management environment is being upgraded in parallel, with some project schedules extending into summer 1998.

Planning is in progress to connect agencies in the Hurley Building, 600 Washington Street, and the Transportation Building to the expanded Campus Network during 1998. New ATM switching technology will enable connecting Chelsea's MITC to the Campus Network backbone during FY98.

For more information contact Lou Macinanti, Communication Services Bureau Director, at 617-937-0962. ♦

FISHERIES & WILDLIFE

Permitting to go On-Line

Massachusetts is blessed with many wonderful natural resources and provides a vast number of opportunities for those who enjoy hunting and fishing. Unfortunately, obtaining the necessary licenses and permits to enjoy these endeavors can sometimes be a time consuming process. Currently, different types of sport and recreational licenses are issued at different locations. For example, if someone has a boat for fishing, they may need to go to Boston to register their boat and then to a retail outlet or town hall for their fishing license. That scenario is about to change thanks to a system that is being implemented by the Office of the Commissioner of the Massachusetts Department of Fisheries, Wildlife & Environmental Law Enforcement (DFWELE).

DFWELE has solicited bids to help create a Statewide Point-of-Sale Outdoor Recreation Transaction (SPORT) system that will provide one-stop shopping for licenses from a variety of locations including home computers. Other key objectives sought through SPORT include consolidation of the licensing process across the three divisions within DFWELE, increasing revenues by making licensing simpler and more convenient for the consumer, and improving auditable processes.

The DFWELE reports to the Secretary of the Massachusetts Executive Office of Environmental Affairs (EOEA). The stated purpose of DFWELE is to manage fish and wildlife, manage activities of the constituents, manage the use and harvest of the Commonwealth's natural resources and property, and ensure that these resources are available to the public forever. The three divisions within DFWELE are the Division of Fish and Wildlife

(DFW), the Division of Marine Fisheries (DMF), and the Division of Environmental Law Enforcement (DLE).

Together, each of the divisions regulate and protect the Commonwealth's Fish and Wildlife resources. DFW is responsible for issuing fishing, hunting and trapping licenses and permits. This is currently a manual process that involves division staff in Boston, approximately 150 qualified licensing agents (from mom & pop type bait stores to major national chains such as Walmart) and approximately 350 city and town clerks). DMF is responsible for licenses and permits for commercial and recreational saltwater fishing and lobstering, and related activities such as the sale of seafood. DLE is mainly responsible for registration and titles of motorboats and registration only of all terrain vehicles (ATVs) and snowmobiles. In addition, the Environmental Police, which are part of DLE, are responsible for enforcing natural resource and environmental laws. DLE has five locations across the state that handle all registration and licensing activities.

Across the DFWELE divisions, levels of automation range from virtually nothing to Oracle databases. Because each of the divisions has their own licensing system there is redundant data, inconsistent business and accounting processes, difficulty in sharing information and inconvenience to many of DFWELE's customers who do business with all three divisions. SPORT Project Director Charlie Anderson said that the new system will help eliminate these problems. "Accounting and record keeping will be electronic and access to the permitting process will be much easier," he said.

The solicitation was closed in October and it is expected that implementation should begin sometime in 1998.

Microsoft Select Agreement

Commonwealth agencies are reminded to always use the Statewide Contract N69220300 to purchase all Microsoft products. Extensive discounts have been negotiated on behalf of the Commonwealth. The key to acquiring these discounts is volume. All Commonwealth agencies must use the Statewide Contract if this contract is to be beneficial. You can review the terms and conditions of the contract as well as ordering procedures at <http://www.magnet.state.ma.us/osd/memo/updt9717.pdf> or by calling OSD at 617-727-7500. ♦

IT Briefs

Massachusetts Information Turnpike Initiative

The Massachusetts Information Turnpike Initiative (MITI) is a state-wide high-capacity fiber optic backbone network which runs 125 miles from Boston to Westfield along the median strip of the Massachusetts Turnpike. MITI is financed by IT Bond 2 funds and is being developed by University Information Systems, a department of the University of Massachusetts System and the UMass President's Office.

MITI began construction in April 1997 and it is now operational. Core components of this advanced high capacity digital network were put in place by the end of August, and UMass began its fall 1997 semester by broadcasting courses through the five campus system with interactive digital video. Through the remaining academic year, UMass is working to increase its video based course offerings, integrate its state-wide Internet service used by state and community colleges, and to begin initiatives with the Department of Education for support of its K-12 network needs. New initiatives include exploring uses of MITI with the National Guard and State Police for their education and training needs.

The major technology enabler is a dual SONET OC-48 carrier service (Northern Telecom BLSR OC-48 equipment) using four single-mode fiber optic cables and providing an initial capacity of 2.4 gigabits per second. Communications shelters constructed by the MassPike house the equipment where fiber segments are terminated. An ATM (Asynchronous Transfer Mode) switch provides a versatile digital service needed to "channelize" the OC-48 bandwidth into specific data, voice and video channels or virtual circuits (Fore Systems Inc. ASX 100 ATM enterprise equipment). Bell Atlantic/NYNEX linked each campus with a high-speed DS-3 link, equivalent to 28 T-1 lines for a total of 45 megabits per second. These lines link the campuses to the MITI backbone and terminate on each campus with smaller-scale ATM edge switches (Fore Systems Inc. equipment).

In August, MPEG-2 digital video codecs (Northern Telecom MPEG-2 equipment) were installed at central locations on each campus. This provided the capability to send and receive highest-quality digital video for UMass courses, compressing the 45 megabit per second signals to a user-selectable range of 6-12 mbps.

This compression is required to link to commercial video broadcast systems as well as to reduce the overall bandwidth required to pass through the 45 mbps DS-3 links to the campuses.

For more information, see the MITI web site at <http://www.umassp.edu/miti/miti.html> or call Peter Carino, MITI Director, at 413-587-2121.

Communications Bridge

The Communications Bridge provides a mechanism for applications to communicate with other applications in a consistent, standardized manner. It enables real time queries and updates as well as data streaming. Backup and recovery, store and forward, security, auditing, and protocol conversion are also provided.

Valuable data is stored in many different computer systems which are often on different physical machines, are separated geographically, require very different rules to be accessed, and do not use the same computer "languages" (protocols, communications software, etc.). Because of these disparities, the data is difficult to share among computer systems. This means that many business systems cannot access all the data they really need in order to make the best decisions, provide the best service to clients, reduce fraud, and enable management analysis activities. Often, the data that can be shared is not as timely as the needs of the business would dictate, requires significant human intervention and cost to deliver, and may depend on delivery technologies that are not reliable.

CommBridge uses IBM's MQSeries software, the industry's leading message queuing product, as its foundation. Each platform containing an agency information system application server is tied into CommBridge via a copy of an MQSeries product, which consists of a local queue manager and one or more message queues.

MQSeries provides a powerful and flexible asynchronous message-passing capability, with an intuitive, compact Application Programming Interface (API). It allows disparate applications to be connected transparently across heterogeneous network protocols, hardware and software platforms. MAGNet, the Commonwealth's wide area network, provides the communica-

IT Briefs

tions path to link systems together. CommBridge is based on several important concepts:

- Departments agree to provide a "service" (example: CTR's MMARS Load service) to those departments authorized to "request" it.
- Each department's computer system can remain autonomous and no control is given up.
- Service and requester software components are to be reused whenever possible, resulting in great efficiencies once the core set of components are built and ready to be reused.

For more information, contact Mark Heumann at (617) 973-0701 or at Mark.Heumann@state.ma.us

Ed Tech Update

On August 27, 1997 Governor Paul Cellucci announced the award of \$7.75 million in education technology matching grants to 135 local school districts. In an historic first, the Governor sent notification of the grants to district superintendents via e-mail after showing reporters his prowess with a web browser. Governor Cellucci is the first chief executive in Massachusetts history to have a computer in his office, and he also uses a notebook computer while at home or when traveling.

As a result of this announcement, all 340 of the state's 347 school districts that submitted local technology plans to the Department of Education have received their education technology matching grants. Since last October, the state has distributed \$27.5 million in such grants, with the five largest going to Boston (\$1,898,790), Springfield (\$707,520), Worcester (\$702,570), Lowell (\$458,940), and Brockton (\$451,050). These grants were authorized by the Education Technology Bond Bill, which was a part of the larger Information Technology Bond Bill II. The Ed Tech Bond Bill authorized \$30 million for \$30 per student matching grants to school districts that have a local technology plan approved by the Department of Education. To be eligible, districts must match the state money 3:1.

"Leveling the Playing Field" - Comm-PASS Public Access Sites

Through its Procurement Reform initiative, Massachusetts looked to develop policies that would support the Commonwealth's socio-economic goals, while streamlining and improving the procurement process itself. This resulted in the development of Comm-PASS (Commonwealth Procurement Access and Solicitation System), an on-line database that contains over \$4 billion in solicitations for goods and services. This Internet-based, electronic tool supports all aspects of the reform and offers a number of opportunities for broadening the participation base and for fostering relationships between all sizes of business.

One of the primary concerns involved in moving to an on-line solicitation system, was the question of providing equity in access or "a level playing field" to less sophisticated or Internet-savvy businesses. Indeed, interested individuals would need a personal computer, modem and connectivity to the Internet to access Comm-PASS. What about those vendors who didn't have the requisite technology or connectivity?

An effective solution was the establishment of a network of Comm-PASS Public Access Sites. Currently there are over 35 Public Access Sites located statewide in Community and Business Development Centers, Chambers of Commerce, Community and State Colleges, Local Businesses and Libraries. These Public Access Sites are conveniently located so that anyone can have access to a computer, the Internet and the Comm-PASS web site (<http://www.comm-pass.com>). Not only do Comm-PASS Public Access Sites provide this service to the public - free of charge - they also have staff who are available to answer any questions or give needed assistance.

The identification and set-up of Comm-PASS Public Access Sites is on-going. Dedicated to improving statewide access, Pamela James-Sommer, Director of Training & Outreach says, "We are continually looking for new Public Access Site locations and are pleased with the positive reception and number of inquiries we have received from various businesses and community organizations." Anyone wanting more information regarding either Comm-PASS or the Public Access Sites can contact the Comm-PASS Help Desk toll-free number: 1(888)MA-STATE or send an email to: comm-pass@state.ma.us. ♦

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A MESSAGE FROM THE CIO

This quarter's message is really from the Secretary of Administration and Finance, Charles D. Baker, whose Year 2000 Compliance memo of September 29, 1997 to all Secretaries and Department Heads is replicated on page 4 of this issue of the Information Technology Bulletin.

The memo is clear, and will not be benefited by further embellishments on my part, so I will only urge that you read and circulate it.

ITD will continue to provide assistance to state government organizations in meeting this challenge. Many examples of the assistance offered are described on pages 5 through 7 of this issue and on our Y2K web site at <http://www.magnet.state.ma.us/y2k>.

Sincerely,
T. Louis Gutierrez

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